

CCD Commander Log File

Software v1.3.18

This copy is registered to:

Jon K. Olson

jon@astroham.com

22:16:09 Action starting.
22:16:09 Connecting to the Camera...
22:16:09 Connecting to the Mount...
22:16:10 Connecting to FocusMax...
22:16:11 Connecting to Rotator...
22:16:11 Connected to rotator.
22:16:11 Rotator reports current angle as 0 degrees.
22:16:11 On east side - angles computed on west side, adding 180 degrees.
22:16:11 Actual position angle is 157.53 degrees.
22:16:11 Guider calibration angle different than current angle.
22:16:11 Recomputing calibration coefficients.
22:16:11 Current Angle = 157.53
22:16:11 GuiderCalAngle = 180.00
22:16:11 Turning on Fan.
22:16:11 Turning on cooler.
22:16:11 Setting cooler = -10
22:16:11 Simple Temperature Control complete.
22:16:11 Starting move to action.
22:16:11 Precessing coordinatates.
22:16:11 J2000 Coordinates: RA: 12h 39m 59.0s Dec: -11°37'21"
22:16:11 JNow Coordinates: RA: 12h 40m 19.6s Dec: -11°39'35"
22:16:11 Slewing to m104...
22:18:23 Done slewing!
22:18:23 Starting post slew delay.
22:18:26 Completed post slew delay.
22:18:26 In Rotate Function. Current PA = 157.53, New PA = 157.53
22:18:26 Current Rotator Angle = 0
22:18:26 New Rotator Angle = 181
22:18:26 Moving rotator...
22:18:50 Rotation complete.
22:18:50 Guider calibration angle different than current angle.
22:18:50 Recomputing calibration coefficients.
22:18:50 Current Angle = 157.53
22:18:50 GuiderCalAngle = 337.53
22:18:50 Running script from C:\Program Files\CCD Commander\camera_cord_routing.vbs
22:24:11 Script complete.
22:24:11 In Rotate Function. Current PA = 157.53, New PA = 180.00
22:24:11 Current Rotator Angle = 181
22:24:11 New Rotator Angle = 158
22:24:11 Moving rotator...
22:24:54 Rotation complete.
22:24:54 Guider calibration angle different than current angle.
22:24:54 Recomputing calibration coefficients.
22:24:54 Current Angle = 180.00
22:24:54 GuiderCalAngle = 157.53
22:24:54 Running m104_red_4x5min_home.act
22:24:54 Starting move to action.
22:24:54 Precessing coordinatates.
22:24:54 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
22:24:54 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
22:24:54 Slewing to GSC 5534:195...
22:25:03 Done slewing!
22:25:03 Starting post slew delay.
22:25:06 Completed post slew delay.
22:25:06 Setting imager bin mode to 2x2.
22:25:06 Setting filter to Luminance.
22:25:09 Taking 5 second image for Plate Solve...
22:25:28 Saving Image...

22:25:29 Performing Plate Solve with CCDSoft...
22:25:34 Plate solve results:
22:25:34 Pixel Scale = 1.75 asp.
22:25:34 North Angle = 359.71 degrees.
22:25:34 J2000 Coordinates = RA: 12h 43m 09.1s Dec: -13°11'05"
22:25:34 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
22:25:34 Adjusted PA = 0.00
22:25:34 Syncing to RA 12.72495, Dec -13.22191
22:25:45 Starting focus run...
22:27:25 Focus succeeded! HFD = 4.31
22:27:25 Starting move to action.
22:27:25 Precessing coordindates.
22:27:25 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
22:27:25 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
22:27:25 Slewing to m104...
22:27:34 Done slewing!
22:27:34 Starting post slew delay.
22:27:37 Completed post slew delay.
22:27:37 Setting imager bin mode to 2x2.
22:27:37 Setting filter to Luminance.
22:27:40 Taking 5 second image for Plate Solve...
22:28:00 Saving Image...
22:28:00 Performing Plate Solve with CCDSoft...
22:28:01 Plate solve results:
22:28:01 Pixel Scale = 1.75 asp.
22:28:01 North Angle = 359.72 degrees.
22:28:01 J2000 Coordinates = RA: 12h 40m 01.9s Dec: -11°35'18"
22:28:01 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
22:28:01 Adjusted PA = 0.00
22:28:01 Syncing to RA 12.67293, Dec -11.62548
22:28:07 Setting image type to Light.
22:28:07 Setting imager bin mode to 2x2.
22:28:07 Setting filter to Red.
22:28:11 Setting imager to full frame.
22:28:11 Setting imager exposure time to 300 seconds.
22:28:12 Setting autoguider bin mode to 2x2.
22:28:12 Taking a 2 second autoguider exposure.
22:28:21 Beginning guide star search...
22:28:23 Found possible guide star at 243, 165 with a max brightness of 3102 ADU.
22:28:23 Taking a 2 second autoguider exposure.
22:28:29 Beginning guide star search...
22:28:30 Found appropriate guide star at 242, 165 with a max brightness of 2641 ADU.
22:28:30 Trying to autoguide on star at 242.0,165.0.
22:28:30 Starting to autoguide.
22:28:38 Checking autoguider max error...
22:28:42 Autoguider error: X=-0.42 Y=-0.27
22:28:42 Autoguider max error < 0.5!
22:28:42 Stopping autoguider...
22:28:45 Automatic guide star acquisition successful!
22:28:45 Setting autoguider exposure time to 2 seconds.
22:28:45 Setting guide star position to 242.0,165.0.
22:28:45 Starting to autoguide.
22:28:53 Checking autoguider max error...
22:28:55 Autoguider error: X=-0.57 Y=-0.12
22:28:55 Checking autoguider max error...
22:28:58 Autoguider error: X=0.19 Y=-0.15
22:28:58 Autoguider max error < 0.5!
22:28:58 Starting imager exposure (1 of 4).
22:34:05 Saving Image...
22:34:05 Imager exposure complete.
22:34:05 Stopping autoguider...
22:34:07 Setting autoguider exposure time to 2 seconds.
22:34:07 Setting guide star position to 244.0,165.0.
22:34:07 Starting to autoguide.

22:34:15 Checking autoguider max error...
22:34:18 Autoguider error: X=-1.39 Y=0.44
22:34:18 Checking autoguider max error...
22:34:21 Autoguider error: X=-0.72 Y=0.46
22:34:21 Checking autoguider max error...
22:34:24 Autoguider error: X=0.09 Y=0.68
22:34:25 Checking autoguider max error...
22:34:28 Autoguider error: X=-0.78 Y=0.58
22:34:28 Checking autoguider max error...
22:34:31 Autoguider error: X=-0.33 Y=0.61
22:34:31 Checking autoguider max error...
22:34:35 Autoguider error: X=-0.56 Y=0.53
22:34:35 Checking autoguider max error...
22:34:38 Autoguider error: X=-0.85 Y=0.05
22:34:38 Checking autoguider max error...
22:34:42 Autoguider error: X=-0.24 Y=0.31
22:34:42 Autoguider max error < 0.5!
22:34:42 Starting imager exposure (2 of 4).
22:39:48 Saving Image...
22:39:48 Imager exposure complete.
22:39:48 Stopping autoguider...
22:39:50 Setting autoguider exposure time to 2 seconds.
22:39:50 Setting guide star position to 244.0,167.0.
22:39:50 Starting to autoguide.
22:39:58 Checking autoguider max error...
22:40:01 Autoguider error: X=-0.34 Y=-2.05
22:40:01 Checking autoguider max error...
22:40:05 Autoguider error: X=-0.85 Y=-1.76
22:40:05 Checking autoguider max error...
22:40:09 Autoguider error: X=0.12 Y=-1.70
22:40:09 Checking autoguider max error...
22:40:13 Autoguider error: X=-0.70 Y=-1.55
22:40:13 Checking autoguider max error...
22:40:16 Autoguider error: X=0.22 Y=-1.83
22:40:16 Checking autoguider max error...
22:40:20 Autoguider error: X=-0.13 Y=-1.73
22:40:20 Checking autoguider max error...
22:40:24 Autoguider error: X=0.43 Y=-0.56
22:40:24 Checking autoguider max error...
22:40:27 Autoguider error: X=0.60 Y=-0.18
22:40:27 Checking autoguider max error...
22:40:30 Autoguider error: X=-0.34 Y=0.14
22:40:30 Autoguider max error < 0.5!
22:40:30 Starting imager exposure (3 of 4).
22:45:36 Saving Image...
22:45:37 Imager exposure complete.
22:45:37 Stopping autoguider...
22:45:39 Setting autoguider exposure time to 2 seconds.
22:45:39 Setting guide star position to 242.0,167.0.
22:45:39 Starting to autoguide.
22:45:47 Checking autoguider max error...
22:45:50 Autoguider error: X=0.50 Y=0.56
22:45:50 Checking autoguider max error...
22:45:53 Autoguider error: X=0.03 Y=0.31
22:45:53 Autoguider max error < 0.5!
22:45:53 Starting imager exposure (4 of 4).
22:50:59 Saving Image...
22:50:59 Imager exposure complete.
22:50:59 Stopping autoguider...
22:51:02 Take Images Action complete.
22:51:02 Done running ml04_red_4x5min_home.act
22:51:02 Running script from C:\Program Files\CCD Commander\lightbox_install.vbs
22:53:54 Script complete.
22:53:54 In Auto Flat Action.

22:53:54 Slewing to flat target location.
22:53:54 Moving to Alt-Az position: Alt: 50°00' 00.0" Az: 150°00'00"
22:54:17 Done slewing!
22:54:17 Starting post slew delay.
22:54:20 Completed post slew delay.
22:54:21 Setting imager bin mode to 1x1.
22:54:21 Setting filter to Luminance.
22:54:28 Setting imager to full frame.
22:54:38 Setting imager exposure time to 1.0 seconds.
22:54:38 Starting imager exposure...
22:54:47 Exposure complete. Computing average ADU.
22:54:47 Average ADU = 363
22:54:47 Target ADU = 18000
22:54:47 New exposure time computed to be 49.6
22:54:52 Setting imager exposure time to 25.0 seconds.
22:54:52 Starting imager exposure...
22:55:25 Exposure complete. Computing average ADU.
22:55:26 Average ADU = 9165
22:55:26 Target ADU = 18000
22:55:30 Setting imager exposure time to 25.0 seconds.
22:55:30 Starting imager exposure...
22:56:03 Exposure complete. Computing average ADU.
22:56:04 Average ADU = 10394
22:56:04 Target ADU = 18000
22:56:08 Setting imager exposure time to 25.0 seconds.
22:56:08 Starting imager exposure...
22:56:42 Exposure complete. Computing average ADU.
22:56:42 Average ADU = 20229
22:56:42 Target ADU = 18000
22:56:42 New exposure time computed to be 22.2
22:56:46 Setting imager exposure time to 22.2 seconds.
22:56:46 Starting imager exposure...
22:57:17 Exposure complete. Computing average ADU.
22:57:18 Average ADU = 59918
22:57:18 Target ADU = 18000
22:57:18 New exposure time computed to be 6.7
22:57:22 Setting imager exposure time to 6.7 seconds.
22:57:22 Starting imager exposure...
22:57:37 Exposure complete. Computing average ADU.
22:57:38 Average ADU = 30093
22:57:38 Target ADU = 18000
22:57:38 New exposure time computed to be 4.0
22:57:42 Setting imager exposure time to 4.0 seconds.
22:57:42 Starting imager exposure...
22:57:54 Exposure complete. Computing average ADU.
22:57:55 Average ADU = 18071
22:57:55 Target ADU = 18000
22:57:55 Current exposure time good! Taking Flats.
22:57:59 Setting imager exposure time to 4.0 seconds.
22:57:59 Starting imager exposure #1
22:58:12 Saving Image...
22:58:13 Exposure complete. Computing average ADU.
22:58:13 Average ADU = 18055
22:58:13 Recomputing exposure time...
22:58:13 New exposure time computed to be 4.0
22:58:17 Setting imager exposure time to 4.0 seconds.
22:58:17 Starting imager exposure #2
22:58:30 Saving Image...
22:58:30 Exposure complete. Computing average ADU.
22:58:31 Average ADU = 18038
22:58:31 Recomputing exposure time...
22:58:31 New exposure time computed to be 4.0
22:58:35 Setting imager exposure time to 4.0 seconds.
22:58:35 Starting imager exposure #3

22:58:48 Saving Image...
22:58:49 Exposure complete. Computing average ADU.
22:58:49 Average ADU = 18028
22:58:49 Recomputing exposure time...
22:58:49 New exposure time computed to be 4.0
22:58:53 Setting imager exposure time to 4.0 seconds.
22:58:53 Starting imager exposure #4
22:59:06 Saving Image...
22:59:07 Exposure complete. Computing average ADU.
22:59:07 Average ADU = 18054
22:59:07 Recomputing exposure time...
22:59:07 New exposure time computed to be 4.0
22:59:11 Setting imager exposure time to 4.0 seconds.
22:59:11 Starting imager exposure #5
22:59:24 Saving Image...
22:59:25 Exposure complete. Computing average ADU.
22:59:25 Average ADU = 18077
22:59:25 Recomputing exposure time...
22:59:25 New exposure time computed to be 4.0
22:59:29 Setting imager exposure time to 4.0 seconds.
22:59:29 Starting imager exposure #6
22:59:42 Saving Image...
22:59:43 Exposure complete. Computing average ADU.
22:59:43 Average ADU = 18067
22:59:43 Recomputing exposure time...
22:59:43 New exposure time computed to be 4.0
22:59:47 Setting imager exposure time to 4.0 seconds.
22:59:47 Starting imager exposure #7
23:00:00 Saving Image...
23:00:01 Exposure complete. Computing average ADU.
23:00:01 Average ADU = 18089
23:00:01 Recomputing exposure time...
23:00:01 New exposure time computed to be 4.0
23:00:05 Setting imager exposure time to 4.0 seconds.
23:00:05 Starting imager exposure #8
23:00:18 Saving Image...
23:00:19 Exposure complete. Computing average ADU.
23:00:19 Average ADU = 18095
23:00:19 Recomputing exposure time...
23:00:19 New exposure time computed to be 4.0
23:00:23 Setting imager exposure time to 4.0 seconds.
23:00:23 Starting imager exposure #9
23:00:36 Saving Image...
23:00:36 Exposure complete. Computing average ADU.
23:00:37 Average ADU = 18099
23:00:37 Recomputing exposure time...
23:00:37 New exposure time computed to be 4.0
23:00:41 Setting imager exposure time to 4.0 seconds.
23:00:41 Starting imager exposure #10
23:00:53 Saving Image...
23:00:54 Exposure complete. Computing average ADU.
23:00:54 Average ADU = 18110
23:00:54 Recomputing exposure time...
23:00:54 New exposure time computed to be 4.0
23:00:55 Setting filter to Red.
23:00:58 Setting imager to full frame.
23:01:02 Setting imager exposure time to 1.0 seconds.
23:01:02 Starting imager exposure...
23:01:11 Exposure complete. Computing average ADU.
23:01:12 Average ADU = 1466
23:01:12 Target ADU = 18000
23:01:12 New exposure time computed to be 12.3
23:01:16 Setting imager exposure time to 12.3 seconds.
23:01:16 Starting imager exposure...

23:01:37 Exposure complete. Computing average ADU.
23:01:37 Average ADU = 16756
23:01:37 Target ADU = 18000
23:01:37 Current exposure time good! Taking Flats.
23:01:41 Setting imager exposure time to 12.3 seconds.
23:01:41 Starting imager exposure #1
23:02:02 Saving Image...
23:02:03 Exposure complete. Computing average ADU.
23:02:03 Average ADU = 16750
23:02:03 Recomputing exposure time...
23:02:03 New exposure time computed to be 13.2
23:02:07 Setting imager exposure time to 13.2 seconds.
23:02:07 Starting imager exposure #2
23:02:29 Saving Image...
23:02:30 Exposure complete. Computing average ADU.
23:02:30 Average ADU = 17982
23:02:31 Recomputing exposure time...
23:02:31 New exposure time computed to be 13.2
23:02:34 Setting imager exposure time to 13.2 seconds.
23:02:34 Starting imager exposure #3
23:02:56 Saving Image...
23:02:57 Exposure complete. Computing average ADU.
23:02:58 Average ADU = 17987
23:02:58 Recomputing exposure time...
23:02:58 New exposure time computed to be 13.2
23:03:01 Setting imager exposure time to 13.2 seconds.
23:03:01 Starting imager exposure #4
23:03:23 Saving Image...
23:03:24 Exposure complete. Computing average ADU.
23:03:24 Average ADU = 17918
23:03:24 Recomputing exposure time...
23:03:24 New exposure time computed to be 13.3
23:03:28 Setting imager exposure time to 13.3 seconds.
23:03:28 Starting imager exposure #5
23:03:50 Saving Image...
23:03:51 Exposure complete. Computing average ADU.
23:03:51 Average ADU = 18053
23:03:51 Recomputing exposure time...
23:03:51 New exposure time computed to be 13.3
23:03:55 Setting imager exposure time to 13.3 seconds.
23:03:55 Starting imager exposure #6
23:04:17 Saving Image...
23:04:18 Exposure complete. Computing average ADU.
23:04:18 Average ADU = 18013
23:04:18 Recomputing exposure time...
23:04:18 New exposure time computed to be 13.3
23:04:22 Setting imager exposure time to 13.3 seconds.
23:04:22 Starting imager exposure #7
23:04:44 Saving Image...
23:04:45 Exposure complete. Computing average ADU.
23:04:45 Average ADU = 17991
23:04:45 Recomputing exposure time...
23:04:45 New exposure time computed to be 13.3
23:04:49 Setting imager exposure time to 13.3 seconds.
23:04:49 Starting imager exposure #8
23:05:11 Saving Image...
23:05:12 Exposure complete. Computing average ADU.
23:05:12 Average ADU = 17917
23:05:12 Recomputing exposure time...
23:05:12 New exposure time computed to be 13.4
23:05:16 Setting imager exposure time to 13.4 seconds.
23:05:16 Starting imager exposure #9
23:05:38 Saving Image...
23:05:39 Exposure complete. Computing average ADU.

23:05:39 Average ADU = 18079
23:05:39 Recomputing exposure time...
23:05:39 New exposure time computed to be 13.3
23:05:43 Setting imager exposure time to 13.3 seconds.
23:05:43 Starting imager exposure #10
23:06:05 Saving Image...
23:06:05 Exposure complete. Computing average ADU.
23:06:06 Average ADU = 17971
23:06:06 Recomputing exposure time...
23:06:06 New exposure time computed to be 13.3
23:06:06 Setting filter to Green.
23:06:09 Setting imager to full frame.
23:06:13 Setting imager exposure time to 1.0 seconds.
23:06:13 Starting imager exposure...
23:06:22 Exposure complete. Computing average ADU.
23:06:23 Average ADU = 1537
23:06:23 Target ADU = 18000
23:06:23 New exposure time computed to be 11.7
23:06:27 Setting imager exposure time to 11.7 seconds.
23:06:27 Starting imager exposure...
23:06:47 Exposure complete. Computing average ADU.
23:06:48 Average ADU = 16770
23:06:48 Target ADU = 18000
23:06:48 Current exposure time good! Taking Flats.
23:06:52 Setting imager exposure time to 11.7 seconds.
23:06:52 Starting imager exposure #1
23:07:12 Saving Image...
23:07:13 Exposure complete. Computing average ADU.
23:07:13 Average ADU = 16736
23:07:13 Recomputing exposure time...
23:07:13 New exposure time computed to be 12.6
23:07:17 Setting imager exposure time to 12.6 seconds.
23:07:17 Starting imager exposure #2
23:07:38 Saving Image...
23:07:39 Exposure complete. Computing average ADU.
23:07:39 Average ADU = 17947
23:07:39 Recomputing exposure time...
23:07:39 New exposure time computed to be 12.6
23:07:43 Setting imager exposure time to 12.6 seconds.
23:07:43 Starting imager exposure #3
23:08:04 Saving Image...
23:08:05 Exposure complete. Computing average ADU.
23:08:05 Average ADU = 17927
23:08:05 Recomputing exposure time...
23:08:05 New exposure time computed to be 12.7
23:08:09 Setting imager exposure time to 12.7 seconds.
23:08:09 Starting imager exposure #4
23:08:30 Saving Image...
23:08:31 Exposure complete. Computing average ADU.
23:08:32 Average ADU = 18083
23:08:32 Recomputing exposure time...
23:08:32 New exposure time computed to be 12.6
23:08:36 Setting imager exposure time to 12.6 seconds.
23:08:36 Starting imager exposure #5
23:08:57 Saving Image...
23:08:57 Exposure complete. Computing average ADU.
23:08:58 Average ADU = 17893
23:08:58 Recomputing exposure time...
23:08:58 New exposure time computed to be 12.7
23:09:02 Setting imager exposure time to 12.7 seconds.
23:09:02 Starting imager exposure #6
23:09:23 Saving Image...
23:09:24 Exposure complete. Computing average ADU.
23:09:25 Average ADU = 17981

23:09:25 Recombuting exposure time...
23:09:25 New exposure time computed to be 12.7
23:09:29 Setting imager exposure time to 12.7 seconds.
23:09:29 Starting imager exposure #7
23:09:50 Saving Image...
23:09:51 Exposure complete. Computing average ADU.
23:09:51 Average ADU = 18063
23:09:51 Recombuting exposure time...
23:09:51 New exposure time computed to be 12.7
23:09:55 Setting imager exposure time to 12.7 seconds.
23:09:55 Starting imager exposure #8
23:10:17 Saving Image...
23:10:17 Exposure complete. Computing average ADU.
23:10:18 Average ADU = 18049
23:10:18 Recombuting exposure time...
23:10:18 New exposure time computed to be 12.7
23:10:22 Setting imager exposure time to 12.7 seconds.
23:10:22 Starting imager exposure #9
23:10:43 Saving Image...
23:10:44 Exposure complete. Computing average ADU.
23:10:45 Average ADU = 18046
23:10:45 Recombuting exposure time...
23:10:45 New exposure time computed to be 12.7
23:10:49 Setting imager exposure time to 12.7 seconds.
23:10:49 Starting imager exposure #10
23:11:10 Saving Image...
23:11:11 Exposure complete. Computing average ADU.
23:11:11 Average ADU = 17844
23:11:11 Recombuting exposure time...
23:11:11 New exposure time computed to be 12.8
23:11:11 Setting filter to Blue.
23:11:15 Setting imager to full frame.
23:11:19 Setting imager exposure time to 1.0 seconds.
23:11:19 Starting imager exposure...
23:11:28 Exposure complete. Computing average ADU.
23:11:28 Average ADU = 1174
23:11:29 Target ADU = 18000
23:11:29 New exposure time computed to be 15.3
23:11:33 Setting imager exposure time to 15.3 seconds.
23:11:33 Starting imager exposure...
23:11:56 Exposure complete. Computing average ADU.
23:11:57 Average ADU = 16368
23:11:57 Target ADU = 18000
23:11:57 Current exposure time good! Taking Flats.
23:12:01 Setting imager exposure time to 15.3 seconds.
23:12:01 Starting imager exposure #1
23:12:25 Saving Image...
23:12:26 Exposure complete. Computing average ADU.
23:12:26 Average ADU = 16448
23:12:26 Recombuting exposure time...
23:12:26 New exposure time computed to be 16.7
23:12:30 Setting imager exposure time to 16.7 seconds.
23:12:30 Starting imager exposure #2
23:12:55 Saving Image...
23:12:56 Exposure complete. Computing average ADU.
23:12:57 Average ADU = 18107
23:12:57 Recombuting exposure time...
23:12:57 New exposure time computed to be 16.6
23:13:01 Setting imager exposure time to 16.6 seconds.
23:13:01 Starting imager exposure #3
23:13:26 Saving Image...
23:13:27 Exposure complete. Computing average ADU.
23:13:27 Average ADU = 17969
23:13:27 Recombuting exposure time...

23:13:27 New exposure time computed to be 16.6
23:13:31 Setting imager exposure time to 16.6 seconds.
23:13:31 Starting imager exposure #4
23:13:56 Saving Image...
23:13:57 Exposure complete. Computing average ADU.
23:13:58 Average ADU = 17889
23:13:58 Recomputing exposure time...
23:13:58 New exposure time computed to be 16.7
23:14:02 Setting imager exposure time to 16.7 seconds.
23:14:02 Starting imager exposure #5
23:14:27 Saving Image...
23:14:28 Exposure complete. Computing average ADU.
23:14:28 Average ADU = 17989
23:14:28 Recomputing exposure time...
23:14:28 New exposure time computed to be 16.7
23:14:32 Setting imager exposure time to 16.7 seconds.
23:14:32 Starting imager exposure #6
23:14:57 Saving Image...
23:14:58 Exposure complete. Computing average ADU.
23:14:58 Average ADU = 17995
23:14:58 Recomputing exposure time...
23:14:59 New exposure time computed to be 16.7
23:15:03 Setting imager exposure time to 16.7 seconds.
23:15:03 Starting imager exposure #7
23:15:28 Saving Image...
23:15:29 Exposure complete. Computing average ADU.
23:15:29 Average ADU = 18018
23:15:29 Recomputing exposure time...
23:15:29 New exposure time computed to be 16.7
23:15:33 Setting imager exposure time to 16.7 seconds.
23:15:33 Starting imager exposure #8
23:15:59 Saving Image...
23:16:00 Exposure complete. Computing average ADU.
23:16:00 Average ADU = 17980
23:16:00 Recomputing exposure time...
23:16:00 New exposure time computed to be 16.7
23:16:04 Setting imager exposure time to 16.7 seconds.
23:16:04 Starting imager exposure #9
23:16:30 Saving Image...
23:16:30 Exposure complete. Computing average ADU.
23:16:31 Average ADU = 17930
23:16:31 Recomputing exposure time...
23:16:31 New exposure time computed to be 16.8
23:16:35 Setting imager exposure time to 16.8 seconds.
23:16:35 Starting imager exposure #10
23:17:00 Saving Image...
23:17:01 Exposure complete. Computing average ADU.
23:17:02 Average ADU = 18014
23:17:02 Recomputing exposure time...
23:17:02 New exposure time computed to be 16.8
23:17:02 Automatic Flat Action complete.
23:17:02 Running script from C:\Program Files\CCD Commander\lightbox_off.vbs
23:17:26 Script complete.
23:17:26 Setting image type to Bias.
23:17:26 Setting imager bin mode to 1x1.
23:17:26 Setting filter to Luminance.
23:17:32 Setting imager to full frame.
23:17:33 Starting imager exposure (1 of 20).
23:17:41 Saving Image...
23:17:42 Imager exposure complete.
23:17:43 Starting imager exposure (2 of 20).
23:17:51 Saving Image...
23:17:52 Imager exposure complete.
23:17:53 Starting imager exposure (3 of 20).

23:18:01 Saving Image...
23:18:02 Imager exposure complete.
23:18:03 Starting imager exposure (4 of 20).
23:18:11 Saving Image...
23:18:12 Imager exposure complete.
23:18:13 Starting imager exposure (5 of 20).
23:18:21 Saving Image...
23:18:22 Imager exposure complete.
23:18:23 Starting imager exposure (6 of 20).
23:18:31 Saving Image...
23:18:32 Imager exposure complete.
23:18:33 Starting imager exposure (7 of 20).
23:18:41 Saving Image...
23:18:41 Imager exposure complete.
23:18:42 Starting imager exposure (8 of 20).
23:18:51 Saving Image...
23:18:51 Imager exposure complete.
23:18:52 Starting imager exposure (9 of 20).
23:19:01 Saving Image...
23:19:01 Imager exposure complete.
23:19:02 Starting imager exposure (10 of 20).
23:19:10 Saving Image...
23:19:11 Imager exposure complete.
23:19:12 Starting imager exposure (11 of 20).
23:19:21 Saving Image...
23:19:21 Imager exposure complete.
23:19:22 Starting imager exposure (12 of 20).
23:19:31 Saving Image...
23:19:31 Imager exposure complete.
23:19:32 Starting imager exposure (13 of 20).
23:19:41 Saving Image...
23:19:41 Imager exposure complete.
23:19:42 Starting imager exposure (14 of 20).
23:19:51 Saving Image...
23:19:51 Imager exposure complete.
23:19:52 Starting imager exposure (15 of 20).
23:20:01 Saving Image...
23:20:01 Imager exposure complete.
23:20:02 Starting imager exposure (16 of 20).
23:20:11 Saving Image...
23:20:12 Imager exposure complete.
23:20:13 Starting imager exposure (17 of 20).
23:20:21 Saving Image...
23:20:22 Imager exposure complete.
23:20:23 Starting imager exposure (18 of 20).
23:20:31 Saving Image...
23:20:32 Imager exposure complete.
23:20:33 Starting imager exposure (19 of 20).
23:20:41 Saving Image...
23:20:42 Imager exposure complete.
23:20:43 Starting imager exposure (20 of 20).
23:20:51 Saving Image...
23:20:52 Imager exposure complete.
23:20:52 Take Images Action complete.
23:20:52 Running script from C:\Program Files\CCD Commander\lightbox_remove.vbs
23:22:25 Script complete.
23:22:25 Running ml04_grn_4x5min_home.act
23:22:25 Starting move to action.
23:22:25 Precessing coordinates.
23:22:25 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
23:22:25 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
23:22:25 Flipping mount...
23:24:51 Slewing to GSC 5534:195...
23:25:09 Done slewing!

23:25:09 Starting post slew delay.
23:25:12 Completed post slew delay.
23:25:12 In Rotate Function. Current PA = 180.00, New PA = 180.00
23:25:12 On east side - angles computed on west side, adding 180 degrees.
23:25:12 Adjusted PA = 0.00
23:25:12 Current Rotator Angle = 158
23:25:12 New Rotator Angle = 338
23:25:12 Moving rotator...
23:25:35 Rotation complete.
23:25:35 Guider calibration angle different than current angle.
23:25:35 Recomputing calibration coefficients.
23:25:36 Current Angle = 180.00
23:25:36 GuiderCalAngle = 0.00
23:25:36 Setting imager bin mode to 2x2.
23:25:36 Setting filter to Luminance.
23:25:38 Taking 5 second image for Plate Solve...
23:25:48 Saving Image...
23:25:48 Performing Plate Solve with CCDSoft...
23:25:50 Plate solve results:
23:25:50 Pixel Scale = 1.75 asp.
23:25:50 North Angle = 359.78 degrees.
23:25:50 J2000 Coordinates = RA: 12h 44m 33.4s Dec: -13°13'39"
23:25:50 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
23:25:50 Adjusted PA = 0.00
23:25:50 Syncing to RA 12.74836, Dec -13.26460
23:25:58 Starting focus run...
23:27:40 Focus succeeded! HFD = 3.67
23:27:40 Starting move to action.
23:27:40 Precessing coordindates.
23:27:40 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
23:27:40 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
23:27:40 Slewing to m104...
23:27:49 Done slewing!
23:27:49 Starting post slew delay.
23:27:52 Completed post slew delay.
23:27:52 Setting imager bin mode to 2x2.
23:27:52 Setting filter to Luminance.
23:27:54 Taking 5 second image for Plate Solve...
23:28:14 Saving Image...
23:28:14 Performing Plate Solve with CCDSoft...
23:28:16 Plate solve results:
23:28:16 Pixel Scale = 1.75 asp.
23:28:16 North Angle = 359.80 degrees.
23:28:16 J2000 Coordinates = RA: 12h 40m 02.9s Dec: -11°35'51"
23:28:16 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
23:28:16 Adjusted PA = 0.00
23:28:16 Syncing to RA 12.67320, Dec -11.63474
23:28:22 Setting image type to Light.
23:28:22 Setting imager bin mode to 2x2.
23:28:22 Setting filter to Green.
23:28:25 Setting imager to full frame.
23:28:25 Setting imager exposure time to 300 seconds.
23:28:26 Setting autoguider bin mode to 2x2.
23:28:26 Taking a 2 second autoguider exposure.
23:28:36 Beginning guide star search...
23:28:37 Found possible guide star at 246, 169 with a max brightness of 2638 ADU.
23:28:37 Taking a 2 second autoguider exposure.
23:28:42 Beginning guide star search...
23:28:44 Found appropriate guide star at 246, 169 with a max brightness of 2580 ADU.
23:28:44 Trying to autoguide on star at 246.0,169.0.
23:28:44 Starting to autoguide.
23:28:52 Checking autoguider max error...
23:28:53 Autoguider error: X=-1.21 Y=-0.10
23:28:53 Checking autoguider max error...

23:28:56 Autoguider error: X=-0.73 Y=-0.09
23:28:56 Checking autoguider max error...
23:28:59 Autoguider error: X=-0.02 Y=-0.22
23:28:59 Autoguider max error < 0.5!
23:28:59 Stopping autoguider...
23:29:01 Automatic guide star acquisition successful!
23:29:01 Setting autoguider exposure time to 2 seconds.
23:29:01 Setting guide star position to 246.0,169.0.
23:29:01 Starting to autoguide.
23:29:09 Checking autoguider max error...
23:29:11 Autoguider error: X=-0.72 Y=0.20
23:29:11 Checking autoguider max error...
23:29:14 Autoguider error: X=-0.41 Y=0.18
23:29:14 Autoguider max error < 0.5!
23:29:14 Starting imager exposure (1 of 4).
23:34:20 Saving Image...
23:34:20 Imager exposure complete.
23:34:20 Stopping autoguider...
23:34:22 Setting autoguider exposure time to 2 seconds.
23:34:22 Setting guide star position to 248.0,169.0.
23:34:22 Starting to autoguide.
23:34:30 Checking autoguider max error...
23:34:34 Autoguider error: X=-1.28 Y=-0.12
23:34:34 Checking autoguider max error...
23:34:37 Autoguider error: X=-0.53 Y=0.03
23:34:37 Checking autoguider max error...
23:34:40 Autoguider error: X=-0.38 Y=0.10
23:34:41 Autoguider max error < 0.5!
23:34:41 Starting imager exposure (2 of 4).
23:39:47 Saving Image...
23:39:47 Imager exposure complete.
23:39:47 Stopping autoguider...
23:39:50 Setting autoguider exposure time to 2 seconds.
23:39:50 Setting guide star position to 248.0,171.0.
23:39:50 Starting to autoguide.
23:39:58 Checking autoguider max error...
23:40:01 Autoguider error: X=0.70 Y=-1.91
23:40:01 Checking autoguider max error...
23:40:05 Autoguider error: X=-0.72 Y=-1.42
23:40:05 Checking autoguider max error...
23:40:08 Autoguider error: X=0.59 Y=-1.57
23:40:08 Checking autoguider max error...
23:40:12 Autoguider error: X=-0.52 Y=-1.37
23:40:12 Checking autoguider max error...
23:40:15 Autoguider error: X=-0.07 Y=-1.82
23:40:15 Checking autoguider max error...
23:40:19 Autoguider error: X=0.62 Y=-1.83
23:40:19 Checking autoguider max error...
23:40:23 Autoguider error: X=0.30 Y=-1.95
23:40:23 Checking autoguider max error...
23:40:27 Autoguider error: X=1.27 Y=-1.51
23:40:27 Checking autoguider max error...
23:40:30 Autoguider error: X=-0.13 Y=-1.00
23:40:30 Checking autoguider max error...
23:40:34 Autoguider error: X=1.11 Y=0.25
23:40:34 Checking autoguider max error...
23:40:37 Autoguider error: X=-0.24 Y=0.60
23:40:37 Checking autoguider max error...
23:40:41 Autoguider error: X=-0.51 Y=0.09
23:40:41 Checking autoguider max error...
23:40:44 Autoguider error: X=0.36 Y=-0.02
23:40:44 Autoguider max error < 0.5!
23:40:44 Starting imager exposure (3 of 4).
23:45:51 Saving Image...

23:45:51 Imager exposure complete.
23:45:51 Stopping autoguider...
23:45:53 Setting autoguider exposure time to 2 seconds.
23:45:53 Setting guide star position to 246.0,171.0.
23:45:53 Starting to autoguide.
23:46:01 Checking autoguider max error...
23:46:04 Autoguider error: X=1.19 Y=0.25
23:46:04 Checking autoguider max error...
23:46:08 Autoguider error: X=0.10 Y=0.33
23:46:08 Autoguider max error < 0.5!
23:46:08 Starting imager exposure (4 of 4).
23:51:14 Saving Image...
23:51:14 Imager exposure complete.
23:51:14 Stopping autoguider...
23:51:16 Take Images Action complete.
23:51:16 Done running m104_grn_4x5min_home.act
23:51:16 Running m104_blu_4x5min_home.act
23:51:16 Starting move to action.
23:51:16 Precessing coordinatates.
23:51:16 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
23:51:16 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
23:51:16 Slewing to GSC 5534:195...
23:51:25 Done slewing!
23:51:25 Starting post slew delay.
23:51:28 Completed post slew delay.
23:51:28 Setting imager bin mode to 2x2.
23:51:28 Setting filter to Luminance.
23:51:35 Taking 5 second image for Plate Solve...
23:51:45 Saving Image...
23:51:46 Performing Plate Solve with CCDSoft...
23:51:47 Plate solve results:
23:51:47 Pixel Scale = 1.74 asp.
23:51:47 North Angle = 359.82 degrees.
23:51:47 J2000 Coordinates = RA: 12h 43m 55.1s Dec: -13°08'60"
23:51:47 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
23:51:48 Adjusted PA = 0.00
23:51:48 Syncing to RA 12.73773, Dec -13.17045
23:51:55 Starting focus run...
23:53:40 Focus succeeded! HFD = 3.27
23:53:40 Starting move to action.
23:53:40 Precessing coordinatates.
23:53:40 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
23:53:40 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
23:53:40 Slewing to m104...
23:53:49 Done slewing!
23:53:49 Starting post slew delay.
23:53:52 Completed post slew delay.
23:53:52 Setting imager bin mode to 2x2.
23:53:52 Setting filter to Luminance.
23:53:54 Taking 5 second image for Plate Solve...
23:54:13 Saving Image...
23:54:13 Performing Plate Solve with CCDSoft...
23:54:15 Plate solve results:
23:54:15 Pixel Scale = 1.75 asp.
23:54:15 North Angle = 359.79 degrees.
23:54:15 J2000 Coordinates = RA: 12h 40m 03.3s Dec: -11°35'55"
23:54:15 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
23:54:15 Adjusted PA = 0.00
23:54:15 Syncing to RA 12.67331, Dec -11.63600
23:54:21 Setting image type to Light.
23:54:21 Setting imager bin mode to 2x2.
23:54:21 Setting filter to Blue.
23:54:25 Setting imager to full frame.
23:54:25 Setting imager exposure time to 300 seconds.

23:54:26 Setting autoguider bin mode to 2x2.
23:54:26 Taking a 2 second autoguider exposure.
23:54:35 Beginning guide star search...
23:54:36 Found possible guide star at 243, 168 with a max brightness of 1987 ADU.
23:54:36 Taking a 2 second autoguider exposure.
23:54:41 Beginning guide star search...
23:54:43 Found appropriate guide star at 242, 168 with a max brightness of 2040 ADU.
23:54:43 Trying to autoguide on star at 242.0,168.0.
23:54:43 Starting to autoguide.
23:54:51 Checking autoguider max error...
23:54:52 Autoguider error: X=-0.28 Y=0.49
23:54:52 Autoguider max error < 0.5!
23:54:52 Stopping autoguider...
23:54:54 Automatic guide star acquisition successful!
23:54:54 Setting autoguider exposure time to 2 seconds.
23:54:54 Setting guide star position to 242.0,168.0.
23:54:54 Starting to autoguide.
23:55:02 Checking autoguider max error...
23:55:04 Autoguider error: X=-0.92 Y=0.29
23:55:04 Checking autoguider max error...
23:55:07 Autoguider error: X=-0.52 Y=-0.15
23:55:07 Checking autoguider max error...
23:55:09 Autoguider error: X=-0.12 Y=-0.03
23:55:10 Autoguider max error < 0.5!
23:55:10 Starting imager exposure (1 of 4).
00:00:15 Saving Image...
00:00:16 Imager exposure complete.
00:00:16 Stopping autoguider...
00:00:18 Setting autoguider exposure time to 2 seconds.
00:00:18 Setting guide star position to 244.0,168.0.
00:00:18 Starting to autoguide.
00:00:26 Checking autoguider max error...
00:00:27 Autoguider error: X=-0.62 Y=0.43
00:00:27 Checking autoguider max error...
00:00:30 Autoguider error: X=-0.52 Y=0.09
00:00:30 Checking autoguider max error...
00:00:33 Autoguider error: X=-0.19 Y=-0.06
00:00:33 Autoguider max error < 0.5!
00:00:33 Starting imager exposure (2 of 4).
00:05:39 Saving Image...
00:05:39 Imager exposure complete.
00:05:39 Stopping autoguider...
00:05:41 Setting autoguider exposure time to 2 seconds.
00:05:41 Setting guide star position to 244.0,170.0.
00:05:41 Starting to autoguide.
00:05:49 Checking autoguider max error...
00:05:51 Autoguider error: X=0.94 Y=-1.09
00:05:51 Checking autoguider max error...
00:05:54 Autoguider error: X=0.15 Y=-1.09
00:05:54 Checking autoguider max error...
00:05:57 Autoguider error: X=0.68 Y=-1.16
00:05:57 Checking autoguider max error...
00:06:00 Autoguider error: X=0.42 Y=-1.18
00:06:00 Checking autoguider max error...
00:06:03 Autoguider error: X=0.32 Y=-1.16
00:06:03 Checking autoguider max error...
00:06:06 Autoguider error: X=0.34 Y=-1.36
00:06:06 Checking autoguider max error...
00:06:09 Autoguider error: X=0.62 Y=-1.22
00:06:09 Checking autoguider max error...
00:06:12 Autoguider error: X=-0.02 Y=-1.40
00:06:12 Checking autoguider max error...
00:06:16 Autoguider error: X=-0.12 Y=-0.79
00:06:16 Checking autoguider max error...

00:06:18 Autoguider error: X=0.07 Y=-1.06
00:06:18 Checking autoguider max error...
00:06:21 Autoguider error: X=-0.33 Y=-0.89
00:06:21 Checking autoguider max error...
00:06:24 Autoguider error: X=-0.64 Y=-0.82
00:06:24 Checking autoguider max error...
00:06:27 Autoguider error: X=0.03 Y=-0.38
00:06:27 Autoguider max error < 0.5!
00:06:27 Starting imager exposure (3 of 4).
00:11:33 Saving Image...
00:11:33 Imager exposure complete.
00:11:33 Stopping autoguider...
00:11:35 Setting autoguider exposure time to 2 seconds.
00:11:35 Setting guide star position to 242.0,170.0.
00:11:35 Starting to autoguide.
00:11:43 Checking autoguider max error...
00:11:45 Autoguider error: X=1.08 Y=0.04
00:11:45 Checking autoguider max error...
00:11:48 Autoguider error: X=0.24 Y=0.75
00:11:48 Checking autoguider max error...
00:11:51 Autoguider error: X=-0.18 Y=0.60
00:11:51 Checking autoguider max error...
00:11:53 Autoguider error: X=0.14 Y=0.45
00:11:53 Autoguider max error < 0.5!
00:11:53 Starting imager exposure (4 of 4).
00:16:59 Saving Image...
00:16:59 Imager exposure complete.
00:16:59 Stopping autoguider...
00:17:01 Take Images Action complete.
00:17:01 Done running m104_blu_4x5min_home.act
00:17:01 Running m104_lum_6x5min_home.act
00:17:01 Running Action List Iteration #1
00:17:01 Starting move to action.
00:17:01 Precessing coordinatnes.
00:17:01 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
00:17:01 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
00:17:01 Slewing to GSC 5534:195...
00:17:10 Done slewing!
00:17:10 Starting post slew delay.
00:17:13 Completed post slew delay.
00:17:13 Setting imager bin mode to 2x2.
00:17:13 Setting filter to Luminance.
00:17:20 Taking 5 second image for Plate Solve...
00:17:30 Saving Image...
00:17:30 Performing Plate Solve with CCDSoft...
00:17:32 Plate solve results:
00:17:32 Pixel Scale = 1.74 asp.
00:17:32 North Angle = 359.84 degrees.
00:17:32 J2000 Coordinates = RA: 12h 43m 56.2s Dec: -13°08'12"
00:17:32 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
00:17:32 Adjusted PA = 0.00
00:17:32 Syncing to RA 12.73802, Dec -13.17381
00:17:40 Starting focus run...
00:19:18 Focus succeeded! HFD = 3.70
00:19:18 Starting move to action.
00:19:18 Precessing coordinatnes.
00:19:18 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
00:19:18 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
00:19:18 Slewing to m104...
00:19:27 Done slewing!
00:19:27 Starting post slew delay.
00:19:30 Completed post slew delay.
00:19:30 Setting imager bin mode to 2x2.
00:19:30 Setting filter to Luminance.

00:19:32 Taking 5 second image for Plate Solve...
00:19:50 Saving Image...
00:19:51 Performing Plate Solve with CCDSoft...
00:19:53 Plate solve results:
00:19:53 Pixel Scale = 1.75 asp.
00:19:53 North Angle = 359.78 degrees.
00:19:53 J2000 Coordinates = RA: 12h 40m 03.6s Dec: -11°35'57"
00:19:53 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
00:19:53 Adjusted PA = 0.00
00:19:53 Syncing to RA 12.67340, Dec -11.63630
00:19:59 Setting image type to Light.
00:19:59 Setting imager bin mode to 1x1.
00:19:59 Setting filter to Luminance.
00:20:01 Setting imager to full frame.
00:20:01 Setting imager exposure time to 300 seconds.
00:20:02 Setting autoguider bin mode to 2x2.
00:20:02 Taking a 2 second autoguider exposure.
00:20:11 Beginning guide star search...
00:20:12 Found possible guide star at 249, 168 with a max brightness of 7953 ADU.
00:20:12 Taking a 2 second autoguider exposure.
00:20:17 Beginning guide star search...
00:20:19 Found appropriate guide star at 248, 168 with a max brightness of 8481 ADU.
00:20:19 Trying to autoguide on star at 248.0,168.0.
00:20:19 Starting to autoguide.
00:20:27 Checking autoguider max error...
00:20:28 Autoguider error: X=-0.05 Y=-0.05
00:20:28 Autoguider max error < 0.5!
00:20:28 Stopping autoguider...
00:20:30 Automatic guide star acquisition successful!
00:20:30 Setting autoguider exposure time to 2 seconds.
00:20:30 Setting guide star position to 248.0,168.0.
00:20:30 Starting to autoguide.
00:20:38 Checking autoguider max error...
00:20:40 Autoguider error: X=0.09 Y=0.08
00:20:40 Autoguider max error < 0.5!
00:20:40 Starting imager exposure (1 of 6).
00:25:49 Saving Image...
00:25:50 Imager exposure complete.
00:25:50 Stopping autoguider...
00:25:52 Setting autoguider exposure time to 2 seconds.
00:25:52 Setting guide star position to 250.0,168.0.
00:25:52 Starting to autoguide.
00:26:00 Checking autoguider max error...
00:26:02 Autoguider error: X=-1.46 Y=0.27
00:26:02 Checking autoguider max error...
00:26:04 Autoguider error: X=-0.62 Y=-0.14
00:26:04 Checking autoguider max error...
00:26:07 Autoguider error: X=0.13 Y=-0.11
00:26:07 Autoguider max error < 0.5!
00:26:07 Starting imager exposure (2 of 6).
00:31:17 Saving Image...
00:31:17 Imager exposure complete.
00:31:17 Stopping autoguider...
00:31:19 Setting autoguider exposure time to 2 seconds.
00:31:19 Setting guide star position to 250.0,170.0.
00:31:19 Starting to autoguide.
00:31:28 Checking autoguider max error...
00:31:29 Autoguider error: X=-0.11 Y=-1.04
00:31:29 Checking autoguider max error...
00:31:32 Autoguider error: X=-0.07 Y=-0.90
00:31:32 Checking autoguider max error...
00:31:35 Autoguider error: X=-0.70 Y=-0.46
00:31:35 Checking autoguider max error...
00:31:37 Autoguider error: X=-0.18 Y=-0.13

00:31:37 Autoguider max error < 0.5!
00:31:37 Starting imager exposure (3 of 6).
00:36:47 Saving Image...
00:36:48 Imager exposure complete.
00:36:48 Stopping autoguider...
00:36:50 Setting autoguider exposure time to 2 seconds.
00:36:50 Setting guide star position to 248.0,170.0.
00:36:50 Starting to autoguide.
00:36:58 Checking autoguider max error...
00:37:00 Autoguider error: X=1.71 Y=-0.01
00:37:00 Checking autoguider max error...
00:37:03 Autoguider error: X=0.85 Y=-0.11
00:37:03 Checking autoguider max error...
00:37:05 Autoguider error: X=0.75 Y=0.25
00:37:05 Checking autoguider max error...
00:37:08 Autoguider error: X=-0.09 Y=-0.01
00:37:08 Autoguider max error < 0.5!
00:37:08 Starting imager exposure (4 of 6).
00:42:18 Saving Image...
00:42:18 Imager exposure complete.
00:42:18 Stopping autoguider...
00:42:20 Setting autoguider exposure time to 2 seconds.
00:42:20 Setting guide star position to 246.0,170.0.
00:42:20 Starting to autoguide.
00:42:29 Checking autoguider max error...
00:42:30 Autoguider error: X=0.47 Y=-0.04
00:42:30 Autoguider max error < 0.5!
00:42:30 Starting imager exposure (5 of 6).
00:47:39 Saving Image...
00:47:40 Imager exposure complete.
00:47:40 Stopping autoguider...
00:47:42 Setting autoguider exposure time to 2 seconds.
00:47:42 Setting guide star position to 246.0,168.0.
00:47:42 Starting to autoguide.
00:47:50 Checking autoguider max error...
00:47:52 Autoguider error: X=0.16 Y=2.37
00:47:52 Checking autoguider max error...
00:47:55 Autoguider error: X=-1.13 Y=2.63
00:47:55 Checking autoguider max error...
00:47:58 Autoguider error: X=1.20 Y=1.92
00:47:58 Checking autoguider max error...
00:48:02 Autoguider error: X=-0.52 Y=2.13
00:48:02 Checking autoguider max error...
00:48:05 Autoguider error: X=-0.03 Y=2.49
00:48:05 Checking autoguider max error...
00:48:08 Autoguider error: X=0.60 Y=1.80
00:48:08 Checking autoguider max error...
00:48:11 Autoguider error: X=-0.40 Y=0.26
00:48:11 Autoguider max error < 0.5!
00:48:11 Starting imager exposure (6 of 6).
00:53:21 Saving Image...
00:53:22 Imager exposure complete.
00:53:22 Stopping autoguider...
00:53:24 Take Images Action complete.
00:53:24 Running Action List Iteration #2
00:53:24 Starting move to action.
00:53:24 Precessing coordindates.
00:53:24 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
00:53:24 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
00:53:24 Slewing to GSC 5534:195...
00:53:32 Done slewing!
00:53:33 Starting post slew delay.
00:53:36 Completed post slew delay.
00:53:36 Setting imager bin mode to 2x2.

00:53:36 Setting filter to Luminance.
00:53:38 Taking 5 second image for Plate Solve...
00:53:48 Saving Image...
00:53:48 Performing Plate Solve with CCDSoft...
00:53:51 Plate solve results:
00:53:51 Pixel Scale = 1.75 asp.
00:53:51 North Angle = 359.85 degrees.
00:53:51 J2000 Coordinates = RA: 12h 43m 53.3s Dec: -13°08'24"
00:53:51 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
00:53:51 Adjusted PA = 0.00
00:53:51 Syncing to RA 12.73722, Dec -13.17714
00:53:59 Starting focus run...
00:55:37 Focus succeeded! HFD = 3.93
00:55:37 Starting move to action.
00:55:37 Precessing coordindates.
00:55:37 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
00:55:37 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
00:55:37 Slewing to m104...
00:55:46 Done slewing!
00:55:46 Starting post slew delay.
00:55:49 Completed post slew delay.
00:55:49 Setting imager bin mode to 2x2.
00:55:49 Setting filter to Luminance.
00:55:51 Taking 5 second image for Plate Solve...
00:56:11 Saving Image...
00:56:12 Performing Plate Solve with CCDSoft...
00:56:13 Plate solve results:
00:56:13 Pixel Scale = 1.75 asp.
00:56:13 North Angle = 359.81 degrees.
00:56:13 J2000 Coordinates = RA: 12h 40m 03.4s Dec: -11°35'55"
00:56:13 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
00:56:13 Adjusted PA = 0.00
00:56:13 Syncing to RA 12.67334, Dec -11.63586
00:56:19 Setting image type to Light.
00:56:19 Setting imager bin mode to 1x1.
00:56:19 Setting filter to Luminance.
00:56:22 Setting imager to full frame.
00:56:22 Setting imager exposure time to 300 seconds.
00:56:23 Setting autoguider bin mode to 2x2.
00:56:23 Taking a 2 second autoguider exposure.
00:56:31 Beginning guide star search...
00:56:32 Found possible guide star at 252, 166 with a max brightness of 9459 ADU.
00:56:33 Taking a 2 second autoguider exposure.
00:56:38 Beginning guide star search...
00:56:39 Found appropriate guide star at 251, 166 with a max brightness of 6944 ADU.
00:56:39 Trying to autoguide on star at 251.0,166.0.
00:56:39 Starting to autoguide.
00:56:47 Checking autoguider max error...
00:56:49 Autoguider error: X=-1.14 Y=0.44
00:56:49 Checking autoguider max error...
00:56:52 Autoguider error: X=-1.24 Y=-0.22
00:56:52 Checking autoguider max error...
00:56:55 Autoguider error: X=0.56 Y=-0.36
00:56:55 Checking autoguider max error...
00:56:58 Autoguider error: X=-0.35 Y=-0.40
00:56:58 Autoguider max error < 0.5!
00:56:58 Stopping autoguider...
00:57:00 Automatic guide star acquisition successful!
00:57:00 Setting autoguider exposure time to 2 seconds.
00:57:00 Setting guide star position to 251.0,166.0.
00:57:00 Starting to autoguide.
00:57:08 Checking autoguider max error...
00:57:09 Autoguider error: X=-0.53 Y=0.09
00:57:09 Checking autoguider max error...

00:57:12 Autoguider error: X=-0.24 Y=-0.10
00:57:12 Autoguider max error < 0.5!
00:57:12 Starting imager exposure (1 of 6).
01:02:23 Saving Image...
01:02:24 Imager exposure complete.
01:02:24 Stopping autoguider...
01:02:26 Setting autoguider exposure time to 2 seconds.
01:02:26 Setting guide star position to 253.0,166.0.
01:02:26 Starting to autoguide.
01:02:34 Checking autoguider max error...
01:02:37 Autoguider error: X=-0.50 Y=0.07
01:02:37 Checking autoguider max error...
01:02:40 Autoguider error: X=0.55 Y=0.03
01:02:40 Checking autoguider max error...
01:02:43 Autoguider error: X=-0.08 Y=0.37
01:02:43 Autoguider max error < 0.5!
01:02:43 Starting imager exposure (2 of 6).
01:07:53 Saving Image...
01:07:54 Imager exposure complete.
01:07:54 Stopping autoguider...
01:07:56 Setting autoguider exposure time to 2 seconds.
01:07:56 Setting guide star position to 253.0,168.0.
01:07:56 Starting to autoguide.
01:08:04 Checking autoguider max error...
01:08:06 Autoguider error: X=1.21 Y=-1.10
01:08:06 Checking autoguider max error...
01:08:10 Autoguider error: X=0.16 Y=-0.43
01:08:10 Autoguider max error < 0.5!
01:08:10 Starting imager exposure (3 of 6).
01:13:19 Saving Image...
01:13:20 Imager exposure complete.
01:13:20 Stopping autoguider...
01:13:22 Setting autoguider exposure time to 2 seconds.
01:13:22 Setting guide star position to 251.0,168.0.
01:13:22 Starting to autoguide.
01:13:30 Checking autoguider max error...
01:13:33 Autoguider error: X=0.58 Y=-0.04
01:13:33 Checking autoguider max error...
01:13:36 Autoguider error: X=-0.68 Y=0.04
01:13:36 Checking autoguider max error...
01:13:39 Autoguider error: X=-0.06 Y=0.40
01:13:39 Autoguider max error < 0.5!
01:13:39 Starting imager exposure (4 of 6).
01:18:49 Saving Image...
01:18:50 Imager exposure complete.
01:18:50 Stopping autoguider...
01:18:52 Setting autoguider exposure time to 2 seconds.
01:18:52 Setting guide star position to 249.0,168.0.
01:18:52 Starting to autoguide.
01:19:00 Checking autoguider max error...
01:19:02 Autoguider error: X=0.76 Y=-0.14
01:19:02 Checking autoguider max error...
01:19:05 Autoguider error: X=0.18 Y=-0.18
01:19:05 Autoguider max error < 0.5!
01:19:05 Starting imager exposure (5 of 6).
01:24:15 Saving Image...
01:24:16 Imager exposure complete.
01:24:16 Stopping autoguider...
01:24:18 Setting autoguider exposure time to 2 seconds.
01:24:18 Setting guide star position to 249.0,166.0.
01:24:18 Starting to autoguide.
01:24:26 Checking autoguider max error...
01:24:29 Autoguider error: X=0.26 Y=1.47
01:24:29 Checking autoguider max error...

01:24:33 Autoguider error: X=0.57 Y=1.37
01:24:33 Checking autoguider max error...
01:24:36 Autoguider error: X=-0.01 Y=-0.40
01:24:36 Autoguider max error < 0.5!
01:24:36 Starting imager exposure (6 of 6).
01:29:46 Saving Image...
01:29:47 Imager exposure complete.
01:29:47 Stopping autoguider...
01:29:49 Take Images Action complete.
01:29:49 Running Action List Iteration #3
01:29:49 Starting move to action.
01:29:49 Precessing coordinates.
01:29:49 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
01:29:49 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
01:29:49 Slewing to GSC 5534:195...
01:29:58 Done slewing!
01:29:58 Starting post slew delay.
01:30:01 Completed post slew delay.
01:30:01 Setting imager bin mode to 2x2.
01:30:01 Setting filter to Luminance.
01:30:03 Taking 5 second image for Plate Solve...
01:30:13 Saving Image...
01:30:14 Performing Plate Solve with CCDSoft...
01:30:15 Plate solve results:
01:30:15 Pixel Scale = 1.75 asp.
01:30:15 North Angle = 359.86 degrees.
01:30:15 J2000 Coordinates = RA: 12h 43m 51.1s Dec: -13°08'31"
01:30:15 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
01:30:15 Adjusted PA = 0.00
01:30:15 Syncing to RA 12.73662, Dec -13.17932
01:30:24 Starting focus run...
01:32:08 Focus succeeded! HFD = 3.80
01:32:08 Starting move to action.
01:32:08 Precessing coordinates.
01:32:08 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
01:32:08 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
01:32:08 Slewing to m104...
01:32:17 Done slewing!
01:32:17 Starting post slew delay.
01:32:20 Completed post slew delay.
01:32:20 Setting imager bin mode to 2x2.
01:32:20 Setting filter to Luminance.
01:32:22 Taking 5 second image for Plate Solve...
01:32:41 Saving Image...
01:32:41 Performing Plate Solve with CCDSoft...
01:32:43 Plate solve results:
01:32:43 Pixel Scale = 1.75 asp.
01:32:43 North Angle = 359.84 degrees.
01:32:43 J2000 Coordinates = RA: 12h 40m 04.1s Dec: -11°35'51"
01:32:43 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
01:32:43 Adjusted PA = 0.00
01:32:43 Syncing to RA 12.67355, Dec -11.63471
01:32:49 Setting image type to Light.
01:32:49 Setting imager bin mode to 1x1.
01:32:49 Setting filter to Luminance.
01:32:51 Setting imager to full frame.
01:32:51 Setting imager exposure time to 300 seconds.
01:32:52 Setting autoguider bin mode to 2x2.
01:32:52 Taking a 2 second autoguider exposure.
01:33:01 Beginning guide star search...
01:33:02 Found possible guide star at 247, 169 with a max brightness of 7895 ADU.
01:33:02 Taking a 2 second autoguider exposure.
01:33:07 Beginning guide star search...
01:33:09 Found appropriate guide star at 248, 169 with a max brightness of 7663 ADU.

01:33:09 Trying to autoguide on star at 248.0,169.0.
01:33:09 Starting to autoguide.
01:33:17 Checking autoguider max error...
01:33:18 Autoguider error: X=-1.41 Y=0.67
01:33:18 Checking autoguider max error...
01:33:21 Autoguider error: X=-0.55 Y=-0.34
01:33:21 Checking autoguider max error...
01:33:24 Autoguider error: X=0.07 Y=-0.47
01:33:24 Autoguider max error < 0.5!
01:33:24 Stopping autoguider...
01:33:26 Automatic guide star acquisition successful!
01:33:26 Setting autoguider exposure time to 2 seconds.
01:33:26 Setting guide star position to 248.0,169.0.
01:33:26 Starting to autoguide.
01:33:34 Checking autoguider max error...
01:33:35 Autoguider error: X=-0.88 Y=-0.27
01:33:35 Checking autoguider max error...
01:33:38 Autoguider error: X=-0.41 Y=-0.19
01:33:38 Autoguider max error < 0.5!
01:33:38 Starting imager exposure (1 of 6).
01:38:48 Saving Image...
01:38:48 Imager exposure complete.
01:38:49 Stopping autoguider...
01:38:51 Setting autoguider exposure time to 2 seconds.
01:38:51 Setting guide star position to 250.0,169.0.
01:38:51 Starting to autoguide.
01:38:59 Checking autoguider max error...
01:39:00 Autoguider error: X=-1.14 Y=0.40
01:39:00 Checking autoguider max error...
01:39:03 Autoguider error: X=-0.71 Y=0.05
01:39:03 Checking autoguider max error...
01:39:06 Autoguider error: X=0.05 Y=-0.09
01:39:06 Autoguider max error < 0.5!
01:39:06 Starting imager exposure (2 of 6).
01:44:15 Saving Image...
01:44:16 Imager exposure complete.
01:44:16 Stopping autoguider...
01:44:18 Setting autoguider exposure time to 2 seconds.
01:44:18 Setting guide star position to 250.0,171.0.
01:44:18 Starting to autoguide.
01:44:26 Checking autoguider max error...
01:44:27 Autoguider error: X=-0.46 Y=-1.67
01:44:27 Checking autoguider max error...
01:44:31 Autoguider error: X=-3.53 Y=-1.64
01:44:31 Checking autoguider max error...
01:44:34 Autoguider error: X=-1.36 Y=-1.39
01:44:34 Checking autoguider max error...
01:44:37 Autoguider error: X=0.73 Y=-1.93
01:44:37 Checking autoguider max error...
01:44:40 Autoguider error: X=1.45 Y=-1.46
01:44:40 Checking autoguider max error...
01:44:43 Autoguider error: X=0.93 Y=-1.72
01:44:43 Checking autoguider max error...
01:44:46 Autoguider error: X=-0.01 Y=-1.18
01:44:46 Checking autoguider max error...
01:44:49 Autoguider error: X=0.49 Y=-0.92
01:44:49 Checking autoguider max error...
01:44:52 Autoguider error: X=0.50 Y=-0.10
01:44:52 Checking autoguider max error...
01:44:55 Autoguider error: X=0.30 Y=-0.07
01:44:55 Autoguider max error < 0.5!
01:44:55 Starting imager exposure (3 of 6).
01:50:04 Saving Image...
01:50:05 Imager exposure complete.

01:50:05 Stopping autoguider...
01:50:07 Setting autoguider exposure time to 2 seconds.
01:50:07 Setting guide star position to 248.0,171.0.
01:50:07 Starting to autoguide.
01:50:15 Checking autoguider max error...
01:50:17 Autoguider error: X=1.04 Y=-0.29
01:50:17 Checking autoguider max error...
01:50:20 Autoguider error: X=1.46 Y=-0.22
01:50:20 Checking autoguider max error...
01:50:23 Autoguider error: X=0.75 Y=0.14
01:50:23 Checking autoguider max error...
01:50:26 Autoguider error: X=1.26 Y=0.19
01:50:26 Checking autoguider max error...
01:50:29 Autoguider error: X=0.49 Y=0.27
01:50:29 Autoguider max error < 0.5!
01:50:29 Starting imager exposure (4 of 6).
01:55:38 Saving Image...
01:55:39 Imager exposure complete.
01:55:39 Stopping autoguider...
01:55:41 Setting autoguider exposure time to 2 seconds.
01:55:41 Setting guide star position to 246.0,171.0.
01:55:41 Starting to autoguide.
01:55:49 Checking autoguider max error...
01:55:50 Autoguider error: X=1.74 Y=0.08
01:55:50 Checking autoguider max error...
01:55:53 Autoguider error: X=0.35 Y=-0.10
01:55:53 Autoguider max error < 0.5!
01:55:53 Starting imager exposure (5 of 6).
02:01:03 Saving Image...
02:01:03 Imager exposure complete.
02:01:03 Stopping autoguider...
02:01:05 Setting autoguider exposure time to 2 seconds.
02:01:05 Setting guide star position to 246.0,169.0.
02:01:05 Starting to autoguide.
02:01:14 Checking autoguider max error...
02:01:15 Autoguider error: X=-1.45 Y=0.99
02:01:15 Checking autoguider max error...
02:01:18 Autoguider error: X=-0.35 Y=-0.87
02:01:18 Checking autoguider max error...
02:01:22 Autoguider error: X=-0.45 Y=-0.91
02:01:22 Checking autoguider max error...
02:01:25 Autoguider error: X=-0.69 Y=-0.62
02:01:25 Checking autoguider max error...
02:01:27 Autoguider error: X=0.75 Y=-0.63
02:01:27 Checking autoguider max error...
02:01:30 Autoguider error: X=-0.12 Y=-0.75
02:01:30 Checking autoguider max error...
02:01:33 Autoguider error: X=-0.23 Y=-0.74
02:01:33 Checking autoguider max error...
02:01:36 Autoguider error: X=0.05 Y=-0.60
02:01:36 Checking autoguider max error...
02:01:39 Autoguider error: X=-0.19 Y=-0.62
02:01:39 Checking autoguider max error...
02:01:42 Autoguider error: X=-1.03 Y=-0.68
02:01:42 Checking autoguider max error...
02:01:45 Autoguider error: X=0.07 Y=-0.72
02:01:45 Checking autoguider max error...
02:01:48 Autoguider error: X=-0.38 Y=-0.81
02:01:48 Checking autoguider max error...
02:01:51 Autoguider error: X=-0.53 Y=-0.68
02:01:51 Checking autoguider max error...
02:01:54 Autoguider error: X=0.68 Y=-0.64
02:01:54 Checking autoguider max error...
02:01:57 Autoguider error: X=0.58 Y=-0.75

02:01:57 Checking autoguider max error...
02:02:00 Autoguider error: X=0.16 Y=-0.08
02:02:00 Autoguider max error < 0.5!
02:02:00 Starting imager exposure (6 of 6).
02:07:08 Saving Image...
02:07:09 Imager exposure complete.
02:07:09 Stopping autoguider...
02:07:11 Take Images Action complete.
02:07:11 Done running m104_lum_6x5min_home.act
02:07:11 Running m104_blu_4x5min_home.act
02:07:11 Starting move to action.
02:07:11 Precessing coordindates.
02:07:11 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
02:07:11 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
02:07:11 Slewing to GSC 5534:195...
02:07:20 Done slewing!
02:07:20 Starting post slew delay.
02:07:23 Completed post slew delay.
02:07:23 Setting imager bin mode to 2x2.
02:07:23 Setting filter to Luminance.
02:07:25 Taking 5 second image for Plate Solve...
02:07:36 Saving Image...
02:07:36 Performing Plate Solve with CCDSoft...
02:07:38 Plate solve results:
02:07:38 Pixel Scale = 1.74 asp.
02:07:38 North Angle = 359.87 degrees.
02:07:38 J2000 Coordinates = RA: 12h 43m 52.9s Dec: -13°08'22"
02:07:38 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
02:07:38 Adjusted PA = 0.00
02:07:38 Syncing to RA 12.73712, Dec -13.17666
02:07:45 Starting focus run...
02:09:28 Focus succeeded! HFD = 4.61
02:09:28 Starting move to action.
02:09:28 Precessing coordindates.
02:09:28 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
02:09:28 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
02:09:28 Slewing to m104...
02:09:37 Done slewing!
02:09:37 Starting post slew delay.
02:09:40 Completed post slew delay.
02:09:40 Setting imager bin mode to 2x2.
02:09:40 Setting filter to Luminance.
02:09:42 Taking 5 second image for Plate Solve...
02:10:02 Saving Image...
02:10:02 Performing Plate Solve with CCDSoft...
02:10:04 Plate solve results:
02:10:04 Pixel Scale = 1.75 asp.
02:10:04 North Angle = 359.85 degrees.
02:10:04 J2000 Coordinates = RA: 12h 40m 03.3s Dec: -11°35'52"
02:10:04 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
02:10:04 Adjusted PA = 0.00
02:10:04 Syncing to RA 12.67331, Dec -11.63503
02:10:10 Setting image type to Light.
02:10:10 Setting imager bin mode to 2x2.
02:10:10 Setting filter to Blue.
02:10:14 Setting imager to full frame.
02:10:14 Setting imager exposure time to 300 seconds.
02:10:15 Setting autoguider bin mode to 2x2.
02:10:15 Taking a 2 second autoguider exposure.
02:10:24 Beginning guide star search...
02:10:25 Taking a 2.56 second autoguider exposure.
02:10:34 Beginning guide star search...
02:10:36 Taking a 3.13 second autoguider exposure.
02:10:47 Beginning guide star search...

02:10:49 Found possible guide star at 244, 167 with a max brightness of 2126 ADU.
02:10:49 Taking a 3.13 second autoguider exposure.
02:10:55 Beginning guide star search...
02:10:56 Found appropriate guide star at 243, 167 with a max brightness of 1791 ADU.
02:10:56 Trying to autoguide on star at 243.0,167.0.
02:10:56 Starting to autoguide.
02:11:09 Checking autoguider max error...
02:11:10 Autoguider error: X=-1.00 Y=-0.52
02:11:10 Checking autoguider max error...
02:11:15 Autoguider error: X=0.29 Y=0.00
02:11:15 Autoguider max error < 0.5!
02:11:15 Stopping autoguider...
02:11:17 Automatic guide star acquisition successful!
02:11:17 Setting autoguider exposure time to 3.13 seconds.
02:11:17 Setting guide star position to 243.0,167.0.
02:11:17 Starting to autoguide.
02:11:29 Checking autoguider max error...
02:11:30 Autoguider error: X=-0.30 Y=-0.14
02:11:30 Autoguider max error < 0.5!
02:11:30 Starting imager exposure (1 of 4).
02:16:36 Saving Image...
02:16:36 Imager exposure complete.
02:16:36 Stopping autoguider...
02:16:38 Setting autoguider exposure time to 3.13 seconds.
02:16:39 Setting guide star position to 245.0,167.0.
02:16:39 Starting to autoguide.
02:16:51 Checking autoguider max error...
02:16:53 Autoguider error: X=-3.03 Y=-0.15
02:16:53 Checking autoguider max error...
02:16:57 Autoguider error: X=-0.19 Y=-0.16
02:16:57 Autoguider max error < 0.5!
02:16:57 Starting imager exposure (2 of 4).
02:22:03 Saving Image...
02:22:04 Imager exposure complete.
02:22:04 Stopping autoguider...
02:22:06 Setting autoguider exposure time to 3.13 seconds.
02:22:06 Setting guide star position to 245.0,169.0.
02:22:06 Starting to autoguide.
02:22:18 Checking autoguider max error...
02:22:19 Autoguider error: X=-0.21 Y=-1.76
02:22:19 Checking autoguider max error...
02:22:24 Autoguider error: X=0.22 Y=-1.53
02:22:24 Checking autoguider max error...
02:22:29 Autoguider error: X=-0.60 Y=-1.95
02:22:29 Checking autoguider max error...
02:22:33 Autoguider error: X=0.47 Y=-1.70
02:22:33 Checking autoguider max error...
02:22:38 Autoguider error: X=1.25 Y=-1.61
02:22:38 Checking autoguider max error...
02:22:42 Autoguider error: X=0.77 Y=-1.11
02:22:42 Checking autoguider max error...
02:22:47 Autoguider error: X=0.34 Y=-0.75
02:22:47 Checking autoguider max error...
02:22:51 Autoguider error: X=-0.08 Y=-0.70
02:22:51 Checking autoguider max error...
02:22:55 Autoguider error: X=0.00 Y=-0.08
02:22:55 Autoguider max error < 0.5!
02:22:55 Starting imager exposure (3 of 4).
02:28:01 Saving Image...
02:28:01 Imager exposure complete.
02:28:01 Stopping autoguider...
02:28:03 Setting autoguider exposure time to 3.13 seconds.
02:28:04 Setting guide star position to 243.0,169.0.
02:28:04 Starting to autoguide.

02:28:16 Checking autoguider max error...
02:28:17 Autoguider error: X=2.01 Y=0.29
02:28:17 Checking autoguider max error...
02:28:22 Autoguider error: X=1.30 Y=-0.22
02:28:22 Checking autoguider max error...
02:28:26 Autoguider error: X=0.13 Y=-0.10
02:28:26 Autoguider max error < 0.5!
02:28:26 Starting imager exposure (4 of 4).
02:33:32 Saving Image...
02:33:33 Imager exposure complete.
02:33:33 Stopping autoguider...
02:33:35 Take Images Action complete.
02:33:35 Done running m104_blu_4x5min_home.act
02:33:35 Running m104_grn_4x5min_home.act
02:33:35 Starting move to action.
02:33:35 Precessing coordindates.
02:33:35 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
02:33:35 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
02:33:35 Slewing to GSC 5534:195...
02:33:44 Done slewing!
02:33:44 Starting post slew delay.
02:33:47 Completed post slew delay.
02:33:47 Setting imager bin mode to 2x2.
02:33:47 Setting filter to Luminance.
02:33:53 Taking 5 second image for Plate Solve...
02:34:03 Saving Image...
02:34:03 Performing Plate Solve with CCDSoft...
02:34:05 Plate solve results:
02:34:05 Pixel Scale = 1.74 asp.
02:34:05 North Angle = 359.91 degrees.
02:34:05 J2000 Coordinates = RA: 12h 43m 51.9s Dec: -13°08'13"
02:34:05 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
02:34:05 Adjusted PA = 0.00
02:34:05 Syncing to RA 12.73683, Dec -13.17413
02:34:14 Starting focus run...
02:35:52 Focus succeeded! HFD = 4.58
02:35:52 Starting move to action.
02:35:52 Precessing coordindates.
02:35:52 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
02:35:52 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
02:35:52 Slewing to m104...
02:36:01 Done slewing!
02:36:01 Starting post slew delay.
02:36:04 Completed post slew delay.
02:36:04 Setting imager bin mode to 2x2.
02:36:04 Setting filter to Luminance.
02:36:06 Taking 5 second image for Plate Solve...
02:36:25 Saving Image...
02:36:25 Performing Plate Solve with CCDSoft...
02:36:27 Plate solve results:
02:36:27 Pixel Scale = 1.75 asp.
02:36:27 North Angle = 359.89 degrees.
02:36:27 J2000 Coordinates = RA: 12h 40m 03.8s Dec: -11°35'46"
02:36:27 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
02:36:27 Adjusted PA = 0.00
02:36:27 Syncing to RA 12.67345, Dec -11.63342
02:36:33 Setting image type to Light.
02:36:33 Setting imager bin mode to 2x2.
02:36:33 Setting filter to Green.
02:36:35 Setting imager to full frame.
02:36:35 Setting imager exposure time to 300 seconds.
02:36:36 Setting autoguider bin mode to 2x2.
02:36:36 Taking a 2 second autoguider exposure.
02:36:45 Beginning guide star search...

02:36:46 Taking a 2.43 second autoguider exposure.
02:36:56 Beginning guide star search...
02:36:57 Found possible guide star at 247, 165 with a max brightness of 1724 ADU.
02:36:57 Taking a 2.43 second autoguider exposure.
02:37:02 Beginning guide star search...
02:37:04 Found appropriate guide star at 247, 165 with a max brightness of 2326 ADU.
02:37:04 Trying to autoguide on star at 247.0,165.0.
02:37:04 Starting to autoguide.
02:37:14 Checking autoguider max error...
02:37:16 Autoguider error: X=-0.63 Y=0.68
02:37:16 Checking autoguider max error...
02:37:19 Autoguider error: X=0.83 Y=-0.28
02:37:19 Checking autoguider max error...
02:37:23 Autoguider error: X=-0.56 Y=-0.22
02:37:23 Checking autoguider max error...
02:37:26 Autoguider error: X=0.37 Y=-0.25
02:37:26 Autoguider max error < 0.5!
02:37:27 Stopping autoguider...
02:37:29 Automatic guide star acquisition successful!
02:37:29 Setting autoguider exposure time to 2.43 seconds.
02:37:29 Setting guide star position to 247.0,165.0.
02:37:29 Starting to autoguide.
02:37:39 Checking autoguider max error...
02:37:40 Autoguider error: X=0.67 Y=-0.11
02:37:40 Checking autoguider max error...
02:37:44 Autoguider error: X=0.71 Y=0.11
02:37:44 Checking autoguider max error...
02:37:47 Autoguider error: X=-0.11 Y=-0.29
02:37:47 Autoguider max error < 0.5!
02:37:47 Starting imager exposure (1 of 4).
02:42:53 Saving Image...
02:42:54 Imager exposure complete.
02:42:54 Stopping autoguider...
02:42:56 Setting autoguider exposure time to 2.43 seconds.
02:42:56 Setting guide star position to 249.0,165.0.
02:42:56 Starting to autoguide.
02:43:06 Checking autoguider max error...
02:43:09 Autoguider error: X=-0.24 Y=0.11
02:43:09 Autoguider max error < 0.5!
02:43:09 Starting imager exposure (2 of 4).
02:48:16 Saving Image...
02:48:16 Imager exposure complete.
02:48:16 Stopping autoguider...
02:48:18 Setting autoguider exposure time to 2.43 seconds.
02:48:19 Setting guide star position to 249.0,167.0.
02:48:19 Starting to autoguide.
02:48:28 Checking autoguider max error...
02:48:32 Autoguider error: X=0.80 Y=-1.58
02:48:32 Checking autoguider max error...
02:48:36 Autoguider error: X=-0.33 Y=-1.73
02:48:36 Checking autoguider max error...
02:48:41 Autoguider error: X=0.33 Y=-1.34
02:48:41 Checking autoguider max error...
02:48:45 Autoguider error: X=-1.06 Y=-1.97
02:48:45 Checking autoguider max error...
02:48:49 Autoguider error: X=0.46 Y=-1.59
02:48:49 Checking autoguider max error...
02:48:54 Autoguider error: X=0.24 Y=-1.32
02:48:54 Checking autoguider max error...
02:48:58 Autoguider error: X=1.17 Y=-1.24
02:48:58 Checking autoguider max error...
02:49:02 Autoguider error: X=0.37 Y=-0.65
02:49:02 Checking autoguider max error...
02:49:06 Autoguider error: X=0.35 Y=-0.81

02:49:06 Checking autoguider max error...
02:49:09 Autoguider error: X=0.35 Y=-0.03
02:49:10 Autoguider max error < 0.5!
02:49:10 Starting imager exposure (3 of 4).
02:54:16 Saving Image...
02:54:16 Imager exposure complete.
02:54:16 Stopping autoguider...
02:54:19 Setting autoguider exposure time to 2.43 seconds.
02:54:19 Setting guide star position to 247.0,167.0.
02:54:19 Starting to autoguide.
02:54:29 Checking autoguider max error...
02:54:31 Autoguider error: X=1.16 Y=0.18
02:54:31 Checking autoguider max error...
02:54:35 Autoguider error: X=1.48 Y=0.30
02:54:35 Checking autoguider max error...
02:54:40 Autoguider error: X=0.25 Y=1.45
02:54:40 Checking autoguider max error...
02:54:44 Autoguider error: X=0.40 Y=0.61
02:54:44 Checking autoguider max error...
02:54:48 Autoguider error: X=0.45 Y=0.46
02:54:48 Autoguider max error < 0.5!
02:54:48 Starting imager exposure (4 of 4).
02:59:54 Saving Image...
02:59:55 Imager exposure complete.
02:59:55 Stopping autoguider...
02:59:57 Take Images Action complete.
02:59:57 Done running m104_grn_4x5min_home.act
02:59:57 Running m104_red_4x5min_home.act
02:59:57 Starting move to action.
02:59:57 Precessing coordindates.
02:59:57 J2000 Coordinates: RA: 12h 43m 56.0s Dec: -13°08'26"
02:59:57 JNow Coordinates: RA: 12h 44m 16.7s Dec: -13°10'40"
02:59:57 Slewing to GSC 5534:195...
03:00:06 Done slewing!
03:00:06 Starting post slew delay.
03:00:09 Completed post slew delay.
03:00:09 Setting imager bin mode to 2x2.
03:00:09 Setting filter to Luminance.
03:00:16 Taking 5 second image for Plate Solve...
03:00:26 Saving Image...
03:00:26 Performing Plate Solve with CCDSoft...
03:00:28 Plate solve results:
03:00:28 Pixel Scale = 1.75 asp.
03:00:28 North Angle = 359.94 degrees.
03:00:28 J2000 Coordinates = RA: 12h 43m 51.0s Dec: -13°08'17"
03:00:28 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
03:00:28 Adjusted PA = 0.00
03:00:28 Syncing to RA 12.73659, Dec -13.17535
03:00:37 Starting focus run...
03:02:20 Focus succeeded! HFD = 5.78
03:02:20 Starting move to action.
03:02:20 Precessing coordindates.
03:02:20 J2000 Coordinates: RA: 12h 40m 03.0s Dec: -11°35'26"
03:02:20 JNow Coordinates: RA: 12h 40m 23.6s Dec: -11°37'40"
03:02:20 Slewing to m104...
03:02:29 Done slewing!
03:02:29 Starting post slew delay.
03:02:32 Completed post slew delay.
03:02:32 Setting imager bin mode to 2x2.
03:02:32 Setting filter to Luminance.
03:02:34 Taking 5 second image for Plate Solve...
03:02:53 Saving Image...
03:02:54 Performing Plate Solve with CCDSoft...
03:02:56 Plate solve results:

03:02:56 Pixel Scale = 1.75 asp.
03:02:56 North Angle = 359.94 degrees.
03:02:56 J2000 Coordinates = RA: 12h 40m 02.5s Dec: -11°35'41"
03:02:56 Adjusting current PA for Plate Solve. CurrentAngle = 180.00
03:02:56 Adjusted PA = 0.00
03:02:56 Syncing to RA 12.67310, Dec -11.63191
03:03:02 Setting image type to Light.
03:03:02 Setting imager bin mode to 2x2.
03:03:02 Setting filter to Red.
03:03:05 Setting imager to full frame.
03:03:05 Setting imager exposure time to 300 seconds.
03:03:06 Setting autoguider bin mode to 2x2.
03:03:06 Taking a 2 second autoguider exposure.
03:03:14 Beginning guide star search...
03:03:16 Taking a 4.42 second autoguider exposure.
03:03:29 Beginning guide star search...
03:03:31 Found possible guide star at 243, 166 with a max brightness of 1658 ADU.
03:03:31 Taking a 4.42 second autoguider exposure.
03:03:38 Beginning guide star search...
03:03:40 Taking a 5.28 second autoguider exposure.
03:03:55 Beginning guide star search...
03:03:57 Taking a 6.51 second autoguider exposure.
03:04:15 Beginning guide star search...
03:04:16 Found possible guide star at 239, 166 with a max brightness of 2545 ADU.
03:04:16 Taking a 6.51 second autoguider exposure.
03:04:25 Beginning guide star search...
03:04:27 Found appropriate guide star at 238, 166 with a max brightness of 2276 ADU.
03:04:27 Trying to autoguide on star at 238.0,166.0.
03:04:27 Starting to autoguide.
03:04:53 Checking autoguider max error...
03:04:57 Autoguider error: X=-1.24 Y=-0.14
03:04:57 Checking autoguider max error...
03:05:05 Autoguider error: X=-0.56 Y=-0.04
03:05:05 Checking autoguider max error...
03:05:12 Autoguider error: X=0.45 Y=0.19
03:05:12 Autoguider max error < 0.5!
03:05:12 Stopping autoguider...
03:05:14 Automatic guide star acquisition successful!
03:05:14 Setting autoguider exposure time to 6.51 seconds.
03:05:14 Setting guide star position to 238.0,166.0.
03:05:14 Starting to autoguide.
03:05:40 Checking autoguider max error...
03:05:44 Autoguider error: X=-0.30 Y=0.29
03:05:44 Autoguider max error < 0.5!
03:05:44 Starting imager exposure (1 of 4).
03:10:50 Saving Image...
03:10:51 Imager exposure complete.
03:10:51 Stopping autoguider...
03:10:53 Setting autoguider exposure time to 6.51 seconds.
03:10:53 Setting guide star position to 240.0,166.0.
03:10:53 Starting to autoguide.
03:11:19 Checking autoguider max error...
03:11:23 Autoguider error: X=0.11 Y=-0.27
03:11:23 Autoguider max error < 0.5!
03:11:23 Starting imager exposure (2 of 4).
03:16:28 Saving Image...
03:16:29 Imager exposure complete.
03:16:29 Stopping autoguider...
03:16:31 Setting autoguider exposure time to 6.51 seconds.
03:16:31 Setting guide star position to 240.0,168.0.
03:16:31 Starting to autoguide.
03:16:57 Checking autoguider max error...
03:17:02 Autoguider error: X=1.96 Y=-0.77
03:17:02 Checking autoguider max error...

03:17:09 Autoguider error: X=1.86 Y=-0.61
03:17:09 Checking autoguider max error...
03:17:16 Autoguider error: X=1.67 Y=-0.10
03:17:17 Checking autoguider max error...
03:17:24 Autoguider error: X=0.81 Y=-0.57
03:17:24 Checking autoguider max error...
03:17:31 Autoguider error: X=1.72 Y=-1.23
03:17:31 Checking autoguider max error...
03:17:39 Autoguider error: X=0.35 Y=-1.58
03:17:39 Checking autoguider max error...
03:17:46 Autoguider error: X=1.62 Y=-0.76
03:17:47 Checking autoguider max error...
03:17:54 Autoguider error: X=1.46 Y=-0.83
03:17:54 Checking autoguider max error...
03:18:01 Autoguider error: X=0.97 Y=-0.32
03:18:01 Checking autoguider max error...
03:18:09 Autoguider error: X=0.59 Y=-1.07
03:18:09 Checking autoguider max error...
03:18:16 Autoguider error: X=-1.34 Y=-0.09
03:18:16 Checking autoguider max error...
03:18:24 Autoguider error: X=0.74 Y=0.08
03:18:24 Checking autoguider max error...
03:18:31 Autoguider error: X=1.14 Y=-0.93
03:18:31 Checking autoguider max error...
03:18:39 Autoguider error: X=1.01 Y=0.03
03:18:39 Checking autoguider max error...
03:18:46 Autoguider error: X=0.39 Y=-0.11
03:18:46 Autoguider max error < 0.5!
03:18:46 Starting imager exposure (3 of 4).
03:23:52 Saving Image...
03:23:52 Imager exposure complete.
03:23:52 Stopping autoguider...
03:23:54 Setting autoguider exposure time to 6.51 seconds.
03:23:55 Setting guide star position to 238.0,168.0.
03:23:55 Starting to autoguide.
03:24:21 Checking autoguider max error...
03:24:26 Autoguider error: X=5.90 Y=2.77
03:24:26 Checking autoguider max error...
03:24:34 Autoguider error: X=4.55 Y=13.33
03:24:34 Checking autoguider max error...
03:24:42 Autoguider error: X=10.48 Y=-12.51
03:24:42 Checking autoguider max error...
03:24:50 Autoguider error: X=4.74 Y=13.14
03:24:50 Checking autoguider max error...
03:24:58 Autoguider error: X=-11.52 Y=10.19
03:24:58 Checking autoguider max error...
03:25:06 Autoguider error: X=-14.75 Y=-10.37
03:25:06 Checking autoguider max error...
03:25:14 Autoguider error: X=7.10 Y=-14.41
03:25:14 Checking autoguider max error...
03:25:21 Autoguider error: X=-15.17 Y=-10.39
03:25:22 Checking autoguider max error...
03:25:29 Autoguider error: X=-14.70 Y=-10.57
03:25:29 Checking autoguider max error...
03:25:37 Autoguider error: X=-11.74 Y=3.44
03:25:37 Checking autoguider max error...
03:25:45 Autoguider error: X=-14.80 Y=-10.53
03:25:45 Checking autoguider max error...
03:25:54 Autoguider error: X=-3.01 Y=13.04
03:25:54 Checking autoguider max error...
03:26:02 Autoguider error: X=-0.99 Y=9.24
03:26:02 Checking autoguider max error...
03:26:09 Autoguider error: X=-9.37 Y=-7.36
03:26:09 Checking autoguider max error...

03:26:18 Autoguider error: X=2.70 Y=-7.02
03:26:18 Checking autoguider max error...
03:26:25 Autoguider error: X=-9.36 Y=4.71
03:26:26 Checking autoguider max error...
03:26:34 Autoguider error: X=5.64 Y=-13.56
03:26:34 Checking autoguider max error...
03:26:42 Autoguider error: X=11.84 Y=-14.97
03:26:42 Checking autoguider max error...
03:26:50 Autoguider error: X=2.47 Y=1.33
03:26:50 Checking autoguider max error...
03:26:58 Autoguider error: X=10.60 Y=-12.20
03:26:58 Autoguider error failed to decrease to < 0.5!
03:26:59 Take Images Action failed.
03:26:59 Done running m104_red_4x5min_home.act
03:26:59 Running script from C:\Program Files\CCD Commander\cap_scope.vbs
03:26:59 Running darks.act
03:26:59 Running Action List Iteration #1
03:26:59 Setting image type to Dark.
03:26:59 Setting imager bin mode to 1x1.
03:26:59 Setting filter to Luminance.
03:27:06 Setting imager to full frame.
03:27:06 Setting imager exposure time to 300 seconds.
03:27:07 Starting imager exposure (1 of 1).
03:32:15 Saving Image...
03:32:16 Imager exposure complete.
03:32:16 Take Images Action complete.
03:32:16 Setting image type to Dark.
03:32:16 Setting imager bin mode to 2x2.
03:32:16 Setting filter to Luminance.
03:32:18 Setting imager to full frame.
03:32:18 Setting imager exposure time to 300 seconds.
03:32:19 Starting imager exposure (1 of 1).
03:37:24 Saving Image...
03:37:25 Imager exposure complete.
03:37:25 Take Images Action complete.
03:37:25 Running Action List Iteration #2
03:37:25 Setting image type to Dark.
03:37:25 Setting imager bin mode to 1x1.
03:37:25 Setting filter to Luminance.
03:37:27 Setting imager to full frame.
03:37:27 Setting imager exposure time to 300 seconds.
03:37:28 Starting imager exposure (1 of 1).
03:42:36 Saving Image...
03:42:37 Imager exposure complete.
03:42:37 Take Images Action complete.
03:42:37 Setting image type to Dark.
03:42:37 Setting imager bin mode to 2x2.
03:42:37 Setting filter to Luminance.
03:42:39 Setting imager to full frame.
03:42:39 Setting imager exposure time to 300 seconds.
03:42:40 Starting imager exposure (1 of 1).
03:47:45 Saving Image...
03:47:45 Imager exposure complete.
03:47:45 Take Images Action complete.
03:47:45 Running Action List Iteration #3
03:47:45 Setting image type to Dark.
03:47:46 Setting imager bin mode to 1x1.
03:47:46 Setting filter to Luminance.
03:47:47 Setting imager to full frame.
03:47:47 Setting imager exposure time to 300 seconds.
03:47:48 Starting imager exposure (1 of 1).
03:52:57 Saving Image...
03:52:58 Imager exposure complete.
03:52:58 Take Images Action complete.

03:52:58 Setting image type to Dark.
03:52:58 Setting imager bin mode to 2x2.
03:52:58 Setting filter to Luminance.
03:53:01 Setting imager to full frame.
03:53:01 Setting imager exposure time to 300 seconds.
03:53:02 Starting imager exposure (1 of 1).
03:58:07 Saving Image...
03:58:08 Imager exposure complete.
03:58:08 Take Images Action complete.
03:58:08 Running Action List Iteration #4
03:58:08 Setting image type to Dark.
03:58:08 Setting imager bin mode to 1x1.
03:58:08 Setting filter to Luminance.
03:58:10 Setting imager to full frame.
03:58:10 Setting imager exposure time to 300 seconds.
03:58:11 Starting imager exposure (1 of 1).
04:03:20 Saving Image...
04:03:21 Imager exposure complete.
04:03:21 Take Images Action complete.
04:03:21 Setting image type to Dark.
04:03:21 Setting imager bin mode to 2x2.
04:03:21 Setting filter to Luminance.
04:03:23 Setting imager to full frame.
04:03:23 Setting imager exposure time to 300 seconds.
04:03:25 Starting imager exposure (1 of 1).
04:08:30 Saving Image...
04:08:30 Imager exposure complete.
04:08:30 Take Images Action complete.
04:08:30 Running Action List Iteration #5
04:08:30 Setting image type to Dark.
04:08:30 Setting imager bin mode to 1x1.
04:08:31 Setting filter to Luminance.
04:08:33 Setting imager to full frame.
04:08:33 Setting imager exposure time to 300 seconds.
04:08:34 Starting imager exposure (1 of 1).
04:13:42 Saving Image...
04:13:43 Imager exposure complete.
04:13:43 Take Images Action complete.
04:13:43 Setting image type to Dark.
04:13:43 Setting imager bin mode to 2x2.
04:13:43 Setting filter to Luminance.
04:13:45 Setting imager to full frame.
04:13:45 Setting imager exposure time to 300 seconds.
04:13:46 Starting imager exposure (1 of 1).
04:18:52 Saving Image...
04:18:52 Imager exposure complete.
04:18:52 Take Images Action complete.
04:18:52 Running Action List Iteration #6
04:18:52 Setting image type to Dark.
04:18:52 Setting imager bin mode to 1x1.
04:18:52 Setting filter to Luminance.
04:18:55 Setting imager to full frame.
04:18:55 Setting imager exposure time to 300 seconds.
04:18:56 Starting imager exposure (1 of 1).
04:24:05 Saving Image...
04:24:06 Imager exposure complete.
04:24:06 Take Images Action complete.
04:24:06 Setting image type to Dark.
04:24:06 Setting imager bin mode to 2x2.
04:24:06 Setting filter to Luminance.
04:24:09 Setting imager to full frame.
04:24:09 Setting imager exposure time to 300 seconds.
04:24:10 Starting imager exposure (1 of 1).
04:29:15 Saving Image...

04:29:16 Imager exposure complete.
04:29:16 Take Images Action complete.
04:29:16 Running Action List Iteration #7
04:29:16 Setting image type to Dark.
04:29:16 Setting imager bin mode to 1x1.
04:29:16 Setting filter to Luminance.
04:29:18 Setting imager to full frame.
04:29:18 Setting imager exposure time to 300 seconds.
04:29:19 Starting imager exposure (1 of 1).
04:34:29 Saving Image...
04:34:29 Imager exposure complete.
04:34:29 Take Images Action complete.
04:34:30 Setting image type to Dark.
04:34:30 Setting imager bin mode to 2x2.
04:34:30 Setting filter to Luminance.
04:34:32 Setting imager to full frame.
04:34:32 Setting imager exposure time to 300 seconds.
04:34:33 Starting imager exposure (1 of 1).
04:39:39 Saving Image...
04:39:39 Imager exposure complete.
04:39:39 Take Images Action complete.
04:39:39 Running Action List Iteration #8
04:39:39 Setting image type to Dark.
04:39:39 Setting imager bin mode to 1x1.
04:39:39 Setting filter to Luminance.
04:39:41 Setting imager to full frame.
04:39:41 Setting imager exposure time to 300 seconds.
04:39:42 Starting imager exposure (1 of 1).
04:44:51 Saving Image...
04:44:52 Imager exposure complete.
04:44:52 Take Images Action complete.
04:44:52 Setting image type to Dark.
04:44:52 Setting imager bin mode to 2x2.
04:44:52 Setting filter to Luminance.
04:44:55 Setting imager to full frame.
04:44:55 Setting imager exposure time to 300 seconds.
04:44:56 Starting imager exposure (1 of 1).
04:50:01 Saving Image...
04:50:02 Imager exposure complete.
04:50:02 Take Images Action complete.
04:50:02 Running Action List Iteration #9
04:50:02 Setting image type to Dark.
04:50:02 Setting imager bin mode to 1x1.
04:50:02 Setting filter to Luminance.
04:50:04 Setting imager to full frame.
04:50:04 Setting imager exposure time to 300 seconds.
04:50:05 Starting imager exposure (1 of 1).
04:55:14 Saving Image...
04:55:15 Imager exposure complete.
04:55:15 Take Images Action complete.
04:55:15 Setting image type to Dark.
04:55:15 Setting imager bin mode to 2x2.
04:55:15 Setting filter to Luminance.
04:55:18 Setting imager to full frame.
04:55:18 Setting imager exposure time to 300 seconds.
04:55:19 Starting imager exposure (1 of 1).
05:00:24 Saving Image...
05:00:25 Imager exposure complete.
05:00:25 Take Images Action complete.
05:00:25 Running Action List Iteration #10
05:00:25 Setting image type to Dark.
05:00:25 Setting imager bin mode to 1x1.
05:00:25 Setting filter to Luminance.
05:00:27 Setting imager to full frame.

05:00:27 Setting imager exposure time to 300 seconds.
05:00:28 Starting imager exposure (1 of 1).
05:05:37 Saving Image...
05:05:37 Imager exposure complete.
05:05:37 Take Images Action complete.
05:05:37 Setting image type to Dark.
05:05:37 Setting imager bin mode to 2x2.
05:05:37 Setting filter to Luminance.
05:05:39 Setting imager to full frame.
05:05:39 Setting imager exposure time to 300 seconds.
05:05:40 Starting imager exposure (1 of 1).
05:10:46 Saving Image...
05:10:46 Imager exposure complete.
05:10:46 Take Images Action complete.
05:10:46 Done running darks.act
05:10:46 Running script from C:\Program Files\CCD Commander\lightbox_install.vbs
05:10:59 Script complete.
05:10:59 In Auto Flat Action.
05:10:59 Slewing to flat target location.
05:10:59 Moving to Alt-Az position: Alt: 50°00' 00.0" Az: 250°00'00"
05:11:47 Done slewing!
05:11:47 Starting post slew delay.
05:11:50 Completed post slew delay.
05:11:51 Action Paused.
05:14:40 Action Resumed.
05:14:41 Setting imager bin mode to 1x1.
05:14:41 Setting filter to Luminance.
05:14:44 Setting imager to full frame.
05:14:53 Setting imager exposure time to 1.0 seconds.
05:14:53 Starting imager exposure...
05:15:03 Exposure complete. Computing average ADU.
05:15:03 Average ADU = 3399
05:15:03 Target ADU = 18000
05:15:03 New exposure time computed to be 5.3
05:15:07 Setting imager exposure time to 5.3 seconds.
05:15:07 Starting imager exposure...
05:15:23 Exposure complete. Computing average ADU.
05:15:24 Average ADU = 17512
05:15:24 Target ADU = 18000
05:15:24 Current exposure time good! Taking Flats.
05:15:28 Setting imager exposure time to 5.3 seconds.
05:15:28 Starting imager exposure #1
05:15:42 Saving Image...
05:15:42 Exposure complete. Computing average ADU.
05:15:43 Average ADU = 17541
05:15:43 Recomputing exposure time...
05:15:43 New exposure time computed to be 5.4
05:15:47 Setting imager exposure time to 5.4 seconds.
05:15:47 Starting imager exposure #2
05:16:01 Saving Image...
05:16:02 Exposure complete. Computing average ADU.
05:16:03 Average ADU = 17882
05:16:03 Recomputing exposure time...
05:16:03 New exposure time computed to be 5.4
05:16:07 Setting imager exposure time to 5.4 seconds.
05:16:07 Starting imager exposure #3
05:16:21 Saving Image...
05:16:21 Exposure complete. Computing average ADU.
05:16:22 Average ADU = 17891
05:16:22 Recomputing exposure time...
05:16:22 New exposure time computed to be 5.4
05:16:26 Setting imager exposure time to 5.4 seconds.
05:16:26 Starting imager exposure #4
05:16:40 Saving Image...

05:16:40 Exposure complete. Computing average ADU.
05:16:41 Average ADU = 17905
05:16:41 Recomputing exposure time...
05:16:41 New exposure time computed to be 5.4
05:16:45 Setting imager exposure time to 5.4 seconds.
05:16:45 Starting imager exposure #5
05:16:58 Saving Image...
05:16:59 Exposure complete. Computing average ADU.
05:17:00 Average ADU = 17904
05:17:00 Recomputing exposure time...
05:17:00 New exposure time computed to be 5.4
05:17:03 Setting imager exposure time to 5.4 seconds.
05:17:03 Starting imager exposure #6
05:17:17 Saving Image...
05:17:18 Exposure complete. Computing average ADU.
05:17:18 Average ADU = 17897
05:17:18 Recomputing exposure time...
05:17:18 New exposure time computed to be 5.4
05:17:22 Setting imager exposure time to 5.4 seconds.
05:17:22 Starting imager exposure #7
05:17:36 Saving Image...
05:17:37 Exposure complete. Computing average ADU.
05:17:37 Average ADU = 17878
05:17:37 Recomputing exposure time...
05:17:37 New exposure time computed to be 5.4
05:17:41 Setting imager exposure time to 5.4 seconds.
05:17:41 Starting imager exposure #8
05:17:55 Saving Image...
05:17:56 Exposure complete. Computing average ADU.
05:17:56 Average ADU = 17938
05:17:56 Recomputing exposure time...
05:17:56 New exposure time computed to be 5.4
05:18:00 Setting imager exposure time to 5.4 seconds.
05:18:00 Starting imager exposure #9
05:18:14 Saving Image...
05:18:14 Exposure complete. Computing average ADU.
05:18:15 Average ADU = 17977
05:18:15 Recomputing exposure time...
05:18:15 New exposure time computed to be 5.4
05:18:19 Setting imager exposure time to 5.4 seconds.
05:18:19 Starting imager exposure #10
05:18:33 Saving Image...
05:18:33 Exposure complete. Computing average ADU.
05:18:34 Average ADU = 18029
05:18:34 Recomputing exposure time...
05:18:34 New exposure time computed to be 5.4
05:18:34 Setting filter to Red.
05:18:37 Setting imager to full frame.
05:18:41 Setting imager exposure time to 1.0 seconds.
05:18:41 Starting imager exposure...
05:18:51 Exposure complete. Computing average ADU.
05:18:51 Average ADU = 1118
05:18:51 Target ADU = 18000
05:18:51 New exposure time computed to be 16.1
05:18:55 Setting imager exposure time to 16.1 seconds.
05:18:55 Starting imager exposure...
05:19:19 Exposure complete. Computing average ADU.
05:19:20 Average ADU = 16255
05:19:20 Target ADU = 18000
05:19:20 Current exposure time good! Taking Flats.
05:19:24 Setting imager exposure time to 16.1 seconds.
05:19:24 Starting imager exposure #1
05:19:48 Saving Image...
05:19:49 Exposure complete. Computing average ADU.

05:19:49 Average ADU = 16263
05:19:49 Recomputing exposure time...
05:19:49 New exposure time computed to be 17.8
05:19:53 Setting imager exposure time to 17.8 seconds.
05:19:53 Starting imager exposure #2
05:20:20 Saving Image...
05:20:21 Exposure complete. Computing average ADU.
05:20:21 Average ADU = 17909
05:20:21 Recomputing exposure time...
05:20:21 New exposure time computed to be 17.9
05:20:25 Setting imager exposure time to 17.9 seconds.
05:20:25 Starting imager exposure #3
05:20:51 Saving Image...
05:20:52 Exposure complete. Computing average ADU.
05:20:52 Average ADU = 17886
05:20:52 Recomputing exposure time...
05:20:52 New exposure time computed to be 18.0
05:20:56 Setting imager exposure time to 18.0 seconds.
05:20:56 Starting imager exposure #4
05:21:23 Saving Image...
05:21:23 Exposure complete. Computing average ADU.
05:21:24 Average ADU = 17971
05:21:24 Recomputing exposure time...
05:21:24 New exposure time computed to be 18.0
05:21:27 Setting imager exposure time to 18.0 seconds.
05:21:27 Starting imager exposure #5
05:21:54 Saving Image...
05:21:55 Exposure complete. Computing average ADU.
05:21:55 Average ADU = 17882
05:21:55 Recomputing exposure time...
05:21:55 New exposure time computed to be 18.1
05:21:59 Setting imager exposure time to 18.1 seconds.
05:21:59 Starting imager exposure #6
05:22:25 Saving Image...
05:22:26 Exposure complete. Computing average ADU.
05:22:26 Average ADU = 17986
05:22:26 Recomputing exposure time...
05:22:26 New exposure time computed to be 18.1
05:22:30 Setting imager exposure time to 18.1 seconds.
05:22:30 Starting imager exposure #7
05:22:57 Saving Image...
05:22:58 Exposure complete. Computing average ADU.
05:22:58 Average ADU = 18000
05:22:58 Recomputing exposure time...
05:22:58 New exposure time computed to be 18.1
05:23:02 Setting imager exposure time to 18.1 seconds.
05:23:02 Starting imager exposure #8
05:23:29 Saving Image...
05:23:30 Exposure complete. Computing average ADU.
05:23:30 Average ADU = 17982
05:23:30 Recomputing exposure time...
05:23:30 New exposure time computed to be 18.1
05:23:34 Setting imager exposure time to 18.1 seconds.
05:23:34 Starting imager exposure #9
05:24:01 Saving Image...
05:24:01 Exposure complete. Computing average ADU.
05:24:02 Average ADU = 17993
05:24:02 Recomputing exposure time...
05:24:02 New exposure time computed to be 18.1
05:24:06 Setting imager exposure time to 18.1 seconds.
05:24:06 Starting imager exposure #10
05:24:33 Saving Image...
05:24:33 Exposure complete. Computing average ADU.
05:24:34 Average ADU = 17990

05:24:34 Recomputing exposure time...
05:24:34 New exposure time computed to be 18.1
05:24:34 Setting filter to Green.
05:24:37 Setting imager to full frame.
05:24:41 Setting imager exposure time to 1.0 seconds.
05:24:41 Starting imager exposure...
05:24:50 Exposure complete. Computing average ADU.
05:24:51 Average ADU = 1158
05:24:51 Target ADU = 18000
05:24:51 New exposure time computed to be 15.5
05:24:55 Setting imager exposure time to 15.5 seconds.
05:24:55 Starting imager exposure...
05:25:18 Exposure complete. Computing average ADU.
05:25:19 Average ADU = 16276
05:25:19 Target ADU = 18000
05:25:19 Current exposure time good! Taking Flats.
05:25:23 Setting imager exposure time to 15.5 seconds.
05:25:23 Starting imager exposure #1
05:25:47 Saving Image...
05:25:48 Exposure complete. Computing average ADU.
05:25:48 Average ADU = 16269
05:25:48 Recomputing exposure time...
05:25:48 New exposure time computed to be 17.1
05:25:52 Setting imager exposure time to 17.1 seconds.
05:25:52 Starting imager exposure #2
05:26:18 Saving Image...
05:26:18 Exposure complete. Computing average ADU.
05:26:19 Average ADU = 18062
05:26:19 Recomputing exposure time...
05:26:19 New exposure time computed to be 17.0
05:26:23 Setting imager exposure time to 17.0 seconds.
05:26:23 Starting imager exposure #3
05:26:49 Saving Image...
05:26:49 Exposure complete. Computing average ADU.
05:26:50 Average ADU = 17980
05:26:50 Recomputing exposure time...
05:26:50 New exposure time computed to be 17.0
05:26:54 Setting imager exposure time to 17.0 seconds.
05:26:54 Starting imager exposure #4
05:27:19 Saving Image...
05:27:20 Exposure complete. Computing average ADU.
05:27:20 Average ADU = 17987
05:27:20 Recomputing exposure time...
05:27:20 New exposure time computed to be 17.0
05:27:24 Setting imager exposure time to 17.0 seconds.
05:27:24 Starting imager exposure #5
05:27:50 Saving Image...
05:27:51 Exposure complete. Computing average ADU.
05:27:51 Average ADU = 18119
05:27:51 Recomputing exposure time...
05:27:51 New exposure time computed to be 16.9
05:27:55 Setting imager exposure time to 16.9 seconds.
05:27:55 Starting imager exposure #6
05:28:21 Saving Image...
05:28:21 Exposure complete. Computing average ADU.
05:28:22 Average ADU = 17945
05:28:22 Recomputing exposure time...
05:28:22 New exposure time computed to be 17.0
05:28:25 Setting imager exposure time to 17.0 seconds.
05:28:25 Starting imager exposure #7
05:28:51 Saving Image...
05:28:52 Exposure complete. Computing average ADU.
05:28:52 Average ADU = 18068
05:28:52 Recomputing exposure time...

05:28:52 New exposure time computed to be 16.9
05:28:56 Setting imager exposure time to 16.9 seconds.
05:28:56 Starting imager exposure #8
05:29:21 Saving Image...
05:29:22 Exposure complete. Computing average ADU.
05:29:22 Average ADU = 17947
05:29:23 Recomputing exposure time...
05:29:23 New exposure time computed to be 17.0
05:29:26 Setting imager exposure time to 17.0 seconds.
05:29:26 Starting imager exposure #9
05:29:52 Saving Image...
05:29:53 Exposure complete. Computing average ADU.
05:29:53 Average ADU = 17953
05:29:53 Recomputing exposure time...
05:29:53 New exposure time computed to be 17.0
05:29:57 Setting imager exposure time to 17.0 seconds.
05:29:57 Starting imager exposure #10
05:30:23 Saving Image...
05:30:23 Exposure complete. Computing average ADU.
05:30:24 Average ADU = 18074
05:30:24 Recomputing exposure time...
05:30:24 New exposure time computed to be 16.9
05:30:24 Setting filter to Blue.
05:30:27 Setting imager to full frame.
05:30:31 Setting imager exposure time to 1.0 seconds.
05:30:31 Starting imager exposure...
05:30:40 Exposure complete. Computing average ADU.
05:30:41 Average ADU = 903
05:30:41 Target ADU = 18000
05:30:41 New exposure time computed to be 19.9
05:30:45 Setting imager exposure time to 19.9 seconds.
05:30:45 Starting imager exposure...
05:31:13 Exposure complete. Computing average ADU.
05:31:14 Average ADU = 15833
05:31:14 Target ADU = 18000
05:31:14 New exposure time computed to be 22.6
05:31:17 Setting imager exposure time to 22.6 seconds.
05:31:17 Starting imager exposure...
05:31:49 Exposure complete. Computing average ADU.
05:31:49 Average ADU = 17973
05:31:49 Target ADU = 18000
05:31:49 Current exposure time good! Taking Flats.
05:31:53 Setting imager exposure time to 22.6 seconds.
05:31:53 Starting imager exposure #1
05:32:25 Saving Image...
05:32:26 Exposure complete. Computing average ADU.
05:32:26 Average ADU = 17974
05:32:26 Recomputing exposure time...
05:32:26 New exposure time computed to be 22.6
05:32:30 Setting imager exposure time to 22.6 seconds.
05:32:31 Starting imager exposure #2
05:33:03 Saving Image...
05:33:03 Exposure complete. Computing average ADU.
05:33:04 Average ADU = 17924
05:33:04 Recomputing exposure time...
05:33:04 New exposure time computed to be 22.7
05:33:08 Setting imager exposure time to 22.7 seconds.
05:33:08 Starting imager exposure #3
05:33:39 Saving Image...
05:33:40 Exposure complete. Computing average ADU.
05:33:41 Average ADU = 18023
05:33:41 Recomputing exposure time...
05:33:41 New exposure time computed to be 22.7
05:33:45 Setting imager exposure time to 22.7 seconds.

05:33:45 Starting imager exposure #4
05:34:16 Saving Image...
05:34:17 Exposure complete. Computing average ADU.
05:34:17 Average ADU = 18042
05:34:17 Recomputing exposure time...
05:34:17 New exposure time computed to be 22.6
05:34:21 Setting imager exposure time to 22.6 seconds.
05:34:21 Starting imager exposure #5
05:34:52 Saving Image...
05:34:53 Exposure complete. Computing average ADU.
05:34:54 Average ADU = 17951
05:34:54 Recomputing exposure time...
05:34:54 New exposure time computed to be 22.7
05:34:58 Setting imager exposure time to 22.7 seconds.
05:34:58 Starting imager exposure #6
05:35:29 Saving Image...
05:35:30 Exposure complete. Computing average ADU.
05:35:31 Average ADU = 18038
05:35:31 Recomputing exposure time...
05:35:31 New exposure time computed to be 22.7
05:35:34 Setting imager exposure time to 22.7 seconds.
05:35:34 Starting imager exposure #7
05:36:06 Saving Image...
05:36:06 Exposure complete. Computing average ADU.
05:36:07 Average ADU = 18033
05:36:07 Recomputing exposure time...
05:36:07 New exposure time computed to be 22.7
05:36:11 Setting imager exposure time to 22.7 seconds.
05:36:11 Starting imager exposure #8
05:36:42 Saving Image...
05:36:42 Exposure complete. Computing average ADU.
05:36:43 Average ADU = 18036
05:36:43 Recomputing exposure time...
05:36:43 New exposure time computed to be 22.7
05:36:47 Setting imager exposure time to 22.7 seconds.
05:36:47 Starting imager exposure #9
05:37:19 Saving Image...
05:37:19 Exposure complete. Computing average ADU.
05:37:20 Average ADU = 18050
05:37:20 Recomputing exposure time...
05:37:20 New exposure time computed to be 22.6
05:37:24 Setting imager exposure time to 22.6 seconds.
05:37:24 Starting imager exposure #10
05:37:56 Saving Image...
05:37:56 Exposure complete. Computing average ADU.
05:37:57 Average ADU = 17826
05:37:57 Recomputing exposure time...
05:37:57 New exposure time computed to be 22.8
05:37:57 Automatic Flat Action complete.
05:37:57 Running script from C:\Program Files\CCD Commander\lightbox_off.vbs
05:39:09 Script complete.
05:39:09 Setting image type to Bias.
05:39:09 Setting imager bin mode to 1x1.
05:39:09 Setting filter to Luminance.
05:39:16 Setting imager to full frame.
05:39:17 Starting imager exposure (1 of 20).
05:39:25 Saving Image...
05:39:26 Imager exposure complete.
05:39:27 Starting imager exposure (2 of 20).
05:39:35 Saving Image...
05:39:36 Imager exposure complete.
05:39:37 Starting imager exposure (3 of 20).
05:39:45 Saving Image...
05:39:46 Imager exposure complete.

05:39:47 Starting imager exposure (4 of 20).
05:39:55 Saving Image...
05:39:56 Imager exposure complete.
05:39:57 Starting imager exposure (5 of 20).
05:40:05 Saving Image...
05:40:06 Imager exposure complete.
05:40:07 Starting imager exposure (6 of 20).
05:40:15 Saving Image...
05:40:16 Imager exposure complete.
05:40:17 Starting imager exposure (7 of 20).
05:40:25 Saving Image...
05:40:26 Imager exposure complete.
05:40:27 Starting imager exposure (8 of 20).
05:40:35 Saving Image...
05:40:36 Imager exposure complete.
05:40:37 Starting imager exposure (9 of 20).
05:40:45 Saving Image...
05:40:46 Imager exposure complete.
05:40:47 Starting imager exposure (10 of 20).
05:40:55 Saving Image...
05:40:56 Imager exposure complete.
05:40:57 Starting imager exposure (11 of 20).
05:41:05 Saving Image...
05:41:06 Imager exposure complete.
05:41:07 Starting imager exposure (12 of 20).
05:41:15 Saving Image...
05:41:16 Imager exposure complete.
05:41:17 Starting imager exposure (13 of 20).
05:41:25 Saving Image...
05:41:26 Imager exposure complete.
05:41:27 Starting imager exposure (14 of 20).
05:41:35 Saving Image...
05:41:36 Imager exposure complete.
05:41:37 Starting imager exposure (15 of 20).
05:41:45 Saving Image...
05:41:46 Imager exposure complete.
05:41:47 Starting imager exposure (16 of 20).
05:41:55 Saving Image...
05:41:56 Imager exposure complete.
05:41:57 Starting imager exposure (17 of 20).
05:42:05 Saving Image...
05:42:06 Imager exposure complete.
05:42:07 Starting imager exposure (18 of 20).
05:42:15 Saving Image...
05:42:16 Imager exposure complete.
05:42:17 Starting imager exposure (19 of 20).
05:42:25 Saving Image...
05:42:26 Imager exposure complete.
05:42:27 Starting imager exposure (20 of 20).
05:42:35 Saving Image...
05:42:36 Imager exposure complete.
05:42:36 Take Images Action complete.
05:42:36 Turning on Fan.
05:42:36 Warming up camera...
05:42:36 Setting camera temperature to 0.2
05:42:36 Waiting for temperature to rise...
05:43:36 Waiting for temperature to rise...
05:44:06 Setting camera temperature to 10.6
05:44:07 Waiting for temperature to rise...
05:45:07 Waiting for temperature to rise...
05:45:37 Setting camera temperature to 20.7
05:45:37 Waiting for temperature to rise...
05:46:37 Waiting for temperature to rise...
05:47:07 Shutting down cooler.

05:47:07 Running script from C:\Program Files\CCD Commander\pcoff.vbs
05:47:08 Action complete.